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POPULAR Computing WEEKLY

23–29 October 1986

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NEWS DESK

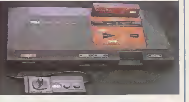
W H Smith boots Mastertronic from Gallup chart

Amstrad PC's reliability questioned

Games consoles: the threat to the 8-bit micro

SEGA MASTER SYSTEM

Full review plus Sega software starts page 14








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ABC

How to submit articles Articles which are submitted for publication should not be more than 2000 words long. The articles and any accompanying programs should be original. It is breaking the law of copyright to copy programs out of other magazines and submit them here – so please do not be tempted. We cannot guarantee to return your programs – so please do not send your only copy. **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish, although we will always try our best to make sure programs work.

Games machines threaten the micros

GAMES consoles could mean the end of the current generation of 8 bit home computers, according to predictions in the software industry At the launch of the Sega last week (see review page 14) Ashley Grey of Anolesoft was suggesting this possibility, while Activision managing director sees the industry splitting mainly between consoles and the more expensive 16 bit machines

I see games cartridges running alongside budget games he says but most of the software is going to be more expensive The argument goes that the standard of games that will be available on the consoles is so high that games players will move over to them from the cheaper machines Logically the market for games on the latter will decline, leaving the likes of the ST and the PC to hold the ring in the home micro market

The success of the consoles will however depend on software availability and in the short term it s uncertain how much there will be Activision already produces software for the machines in the US, and will be able to import it, while Anolesoft is bringing in Sega s own cartridges, but there seems to be little development currently under way in the UK

Sega development systems should start to circulate shortly, but Atari has yet to contact software houses about its 7800 machine while one major software producer waxed abusive on the subject of trying to get specifications for the Nintendo out of UK distributor Mattel

Price will also be a barrier Cousens sees cartridges starting off at £15–£20 and dropping over the next year but concedes that although the software houses will push for price cuts the console manufacturers will want to keep prices up He s not willing to predict which machine will do best here, but although price will be a factor – the Atari will be around £40 the Sega £100 and the Nintendo £140 – he feels that the company with the best distribution will dominate the market for consoles

The complete Compliment

First sightings of new Saga at Microfair

FINISHED versions of Saga s new Compliment will be on display at this Saturday s ZX Microfair, and although the machine won t be on sale Saga will be taking orders for deliver over the next few weeks

The system is basically a bundle of disc drive add-on keyboard, printer and software and at £344 is substantially cheaper than the cost of the items separately The keyboard is a Saga 2+ while the disc drive is the Opus Discovery, which is as near a disc standard for the Spectrum as you can get

The printer is capable of 150 cps, and can achieve 25 cps in NLQ mode, while the bundled software which includes word processor, spreadsheet and data base is controlled by a menu driven system that bypasses Spectrum Basic The system will be reviewed in full in next week s issue

Amstrad PC reliability is questioned

THE reliability of Amstrad's new PC was questioned last week as chemical giant ICI decided against buying large numbers of the machines after a series of tests The PC s small footprint seems to have been its undoing here, as it has no fan and little free space inside ICI feels that this could cause overheating

Several individuals who bought the machine are also known to have had problems with it although an Amstrad spokesman suggested that these were caused by "overloading the power supply A PC with its full complement of expansion cards would obviously run hotter, but any problem is more likely to relate to the power drawn

The IBM PC itself and many add-on cards are designed from components with a higher power draw than Amstrad s own circuitry and the company may therefore have underestimated the rating it needed for its power supply and expansion slots

Mastertronic hits out over changes in chart

THE domination of Mastertronic in the Gallup chart has dramatically collapsed this week largely to the benefit of its budget rival Firebird

This week's Top Twenty (see page 19 for details) has six Firebird titles (not all budget releases) against Mastertronic s one In the top forty, Firebird has 11 games and Mastertronic five compared to ten out of 20 in September

The reason for this is that this week, W H Smith one of the leading suppliers of games software, has selected 50 of its stores to return sales figures to Gallup each week.

Gallup software researcher Matthew Brown said "This is the first week that we have W H Smith on-line We were aware that something like this was going to happen but I don t think anyone realised it would be quite so drastic"

Frank Herman, chairman of Mastertronic, pointed out that the inclusion of W H Smith would inevitably tell against his company s titles

"It s simple, W H Smith does not stock Mastertronic titles Mastertronic was not prepared to pay the distributor margins required to get into Smith s

On the question of whether either Firebird or Mastertronic have been fairly represented in the charts in the past, Matthew Brown said, "If this means we were under representing Firebird before, then we ve put it all to rights If we re over-representing, then we ll look closely at it."

Frank Herman had no doubts about Mastertronic s share "I ve never thought we were over-represented Our biggest outlets are Woolworth s Tesco and Toys R Us – which are totally ignored by Gallup"

Firebird was understandably cheerful at its increased visibility in the Gallup chart

It s good to see that the most representative source of market information is starting to become backed by the multiples," said Firebird marketing manager Tom Watson



The new Business 2

Memotech's in Business

MEMOTECH S first new computer since its rescue from the liquidator is to be the Business 2, a micro, printer and monitor bundle that will sell for £650 The machine runs CP/M 2 2 and has a single 3½ inch disc drive as standard with Ram of 256K plus a 512K Ram disc

The Ram disc can be expanded up to 4Mb and the machine has a wealth of interfacing twin RS232 Centronics twin composite video, RGB and joystick ports It also has a socket for the MSX 2 graphics chip, which will allow the machine to be used with video cameras and frame grabbers

It will run existing Memotech tape software and an Amstrad emulator plus a 3 inch disc drive will also be available to allow it to run PCW software

The machine should come onto the market in the next few months

Adventurer's Club reopens

THE Adventurers Club was due to reopen its doors on Monday after an absence of several months According to a letter sent out to members by organiser Henry Mueller the last few months have been a length takeover battle for the Club, which is a limited company

Mueller has now emerged as a triumphant 51 per cent shareholder and intends to resume publication of the Club s newsletter from the end of this month Subscriptions will be extended to compensate for the months in which members received nothing

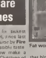
Micro smuggler jailed

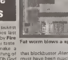
A COMPUTER expert was fined £20,000 and jailed for nine months last week after pleading guilty to eight charges of illegally exporting computer equipment to the Soviet Union

Alan Simmons was arrested at Birmingham airport in 1984 after undercover Customs officials watched him unloading a consignment of equipment into an export warehouse

Simmons fell foul of the Nato ban on export of equipment that could be used by the Eastern Bloc for military purposes The banned list includes equipment from minicomputers down to 16-bit micros, so even the humble QL requires a special export licence

Software Hotlines





Fat worm blows a sparky

From [illegible] sickest of the [illegible] H[illegible]lines last week with *Mad Nurse* by **Fire** 'all in the best possible taste **Bird)** **Durell** now make a strong bid in the Clutching of hands over the face – Oh God what am I doing here? award with the release of *Fat Worm blows a Sparky* Technically middling, astoundingly dull one assumes that someone in the company has gone mentally AWOL

Jokes (and they can t be serious can they?) are acceptable at £1 99 but when they are sold at £9 95 they loose much of their humor Programmer/designer **Julian Todd** has no shame his name is there on the inlay Julian, do the computer industry a favour Take up basket weaving

From a Dodo to a Duck *Howard the Duck* – once comic book character, now movie, soon to be computer game **Activision** should be releasing it later in the year but we went straight to the source (orange sauce in this case) and saw the film last week Popular's answer to **Barry Norman** tells me that this duck is more than a little lame Big A must find this disconcerting (to say the least, as it is rumoured that in the film rights carve up with **Electric Dreams, Activision** chose *Howard* in front of that blockbuster *Aliens* They must have been quackers

More and more it seems that retailers and distributors are taking commercial decisions that are cutting disturbing inroads into what you, the public, get to see in the shops The actual selection and display policy of the multiples is probably the most serious of these but how s this for a silly one

Infogrammes is planning to launch another kind of who dunnit program later this year called *Murder on the Atlantic* It involves a murder on board an Atlantic liner just before the outbreak of the Second World War with spies intrigue mystery etc, etc

Now together with the tape/disc **Infogrammes** have a whole load of supplementary material to help the budding sleuth Maps newspaper cuttings pictures (see the holiday snap below) code books letters – even some braille text **Infocom** would be proud of this little lot – but it seems because it s a bit out of the ordinary you may never get the opportunity to buy it Pass the sick bag

John Cook



Jenny in Deauville

Seeking the software for Sega system



Sega Drawing a bead on the games market

BOOK now for the invasion of the games consoles Atari Nintendo and Sega are all convinced that the market everyone thought was dead is alive and kicking and poised for spectacular growth through the next year

Sega s Master System is being distributed in the UK, Holland and Germany by Ariolasoft and at the launch last week Ariola was talking about the hows, whys and wherefores of the dedicated games machine

The boom that s perceived as being about to happen is based on the continued popularity of coin-operated arcade machines and the reasoning is that if you can put together a games console that will allow people to play arcade standard games at home you can sell lots and lots of them

It is however vital to get adequate supplies of games into the shops alongside the consoles This is one of the problems they ve faced in the past and could spell trouble in the future Sega is dominant in the coin op business and according to the company s European managing director Victor Leslie releases around 12 new titles a year

Now if you accept that the home player s performance differs from the arcade player s – in that while the latter plays until the money runs out, the former plays until sick – it s likely that the games consoles will need to have many more titles available for them and these are unlikely to come from Sega

Frank Brunger marketing manager of Ariola says that the software for the machine will be fairly tightly controlled Software houses wishing to write for it will first have to obtain licences from Sega in Japan (Leslie claims they were queueing up for them on his last visit) then write the game and then get Ariola s agreement to market it

In terms of volume of software there are clearly problems here Any company wishing to write for the Sega has to be big enough to negotiate the licence and also big enough to sustain the cost of developing a game with no guarantee that it will ever be released

And while Ariola doesn t envisage any problems in negotiating with Japan it s almost certain, given the ad hoc nature of much of the British software industry that some companies will face delays and frustration

The logical alternative to write and release the software independently, may be closed to people who want to write for the Sega The machine uses cartridges and Astron cards for software but it checks the media for the presence of some form of code that is Sega s copyright so if you don t have a licence and you write something that runs on it you re probably a pirate

So if the machine takes off we re likely to see less software produced by fewer companies, and while on average it should be better it will be mainly commissioned work, and will lack the off-the-wall innovation that s generated by having machines and users can actually program Naturally it s in the interest of the bigger software houses to have a more controlled market, and to up the ante in terms of entry cost, but is it in the interest of the users?

John Lettice

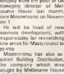
QL's return planned for ZX Microfair

THE next ZX Microfair – the 20th — takes place at Central Hall Westminster this Saturday (October 25) This is a change of venue from recent Microfairs Central Hall is situated opposite Westminster Abbey

The show s organiser, Mike Johnson is enthusiastic about the products on show this weekend We ll have the Sega *Compliment* on display, and Sandy is showing prototypes of its super QL type machine CST will also be there with Thor."

But what about Amstrad? Won t it be there to take Sinclair s place with the Spectrum Plus 2? Well, I was hoping that Alan Sugar would come and sell one or two off the back of a barrow but apparently not," said Mike

"But I wouldn t worry I expect there'll be quite a few independent companies selling Plus 2s on the day



Thor Back for the Microfair

Geoff Heath hikes over to Mastertronic

GEOFF Heath who resigned abruptly from the post of UK managing director of Melbourne House last month, joins Mastertronic on November 1

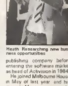
He will be head of new business development, with responsibility for researching new areas for Mastertronic to go into

Mastertronic has also acquired Bulldog Distribution, the company which was bought by Melbourne House while Heath was managing director there

Bulldog is responsible for supplying software to Toys R Us, among other outlets

Geoff Heath owned a music publishing company before entering the software market as head of Activision in 1984

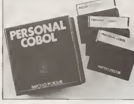
He joined Melbourne House in May of last year and his move to Mastertronic is probably related to his interest in distribution



Heath Researching new business opportunities


THE SACRED ARMOUR OF
ANTIRIAD
Pack includes 16 Page COMIC
READ THE COMIC! PLAY THE GAME!

Product News



Micro Focus produces PC Cobol package

MICRO Focus has produced a special £99 educational package for PC compatible machines. The package is aimed at computer language teachers and consists of *Personal Cobol* plus an accompanying book free while stocks last.

The program is a fully integrated set of productivity tools that includes Micro Focus' *Animator* software testing facility. The book is Cobol on Microcomputers, by Alan D T Fryer. The package is available to educational establishments from Micro Focus and to individual users by Hisoft.

Details from Micro Focus, 26 West Street, Newbury, Berks RG13 1JT. Tel 0635 32646.
or
Hisoft, The Old School, Greenfield, Bedford MK45 5DE. Tel 0525 718181

Prestel goes for gold

FROM December Prestel subscribers will be able to access the Telecom Gold electronic mail service via a new gateway, which will ultimately mean that messages will be able to be transferred across both networks.

The gateway allows scrolling information of the sort produced by Gold to be formatted in Prestel style. Prestel users will be able to edit text prior to transmission and to move straight to Gold's ID entry point from Prestel.

Details from Prestel, Telephone House, Temple Avenue, London EC4Y 0HL. Tel 01-822 1056

Low-cost PC packages

MAP Computer Systems has launched three specialist packages for IBM compatibles and the Amstrad PC. *News File* costs £119 and is a program designed for newsagents stock control and accounting, dealing with publications stocked, orders, delivery lists, overdue reminders and monthly accounts.

Sales Administration and Management is £79 and provides facilities for mailmerge, prospecting, follow up diary and a range of other sales-related matters. *Life and Pensions Planning* is a system for the life assurance and pensions industries, dealing with life assurance, pensions, capital conversion and other related areas. It costs £99 for the planning module, and £129 for management.

Details from MAP Computer Systems, 105–107 Windsor Road, Oldham OL8 1RP. Tel 061-624 5662

Mini on Rom

MINI Office II is now being sold in Rom version for the BBC B, Master and Master Compact computers. The £59.95 product, which is contained in four chips mounted on one board, allows immediate access to the six modules of word processor, database, spreadsheet, graphics, label printing and communications.

Details from Database Software, Europa House, 80 Chester Road, Hazel Grove, Stockport SK7 5NY. Tel 061-463 2737

Diary Dates

OCTOBER

25 October
20th ZX Microfair
Central Hall, Westminster, London SW1
Details Sinclair machines, hardware and software support
Price £1.50 adult, £1 children for advance sales, £2 and £1 on the door
Organiser Mike Johnston 01-801 9172

27 October
Computer Club 66
Blue Coat Comprehensive School, Birmingham Road, Walsall
Details: Mainly Amstrad but includes a Sinclair corner
Price 25p
Organiser West Midlands Amstrad Users Group 021-420 1515

30–31 October
Hampshire Computer Fair
Guildhall, Southampton
Details Business computers
Price Free entry by business registration
Organiser Testwood Exhibitions 0703 31557

NOVEMBER

1 November
Kent Dragon Show
Maidstone Methodist Hall, Brewer Street, Maidstone
Details Local Dragon show
Prices £1 adults, 50p children
Organiser Compucope, 0821 772589

7–9 November
Electron and BBC Micro User Show
New Horticultural Hall, Greycoat Street, London SW1
Details Hardware, software and peripherals for the Electron, BBC micro and Master series
Prices £3 adults, £2 children, £1 discount for advance booking
Organiser Datalines Exhibitions, 061-456 8835

8 November
UKEUG National Einstein Show
National Motor Cycle Museum, Birmingham
Details Einstein software and hardware
Price Free
Organiser UKEUG 07982 2399

15 November
Wales and West Computer Show
Central Hotel, Cardiff
Details All types of home computer and support
Price £1 adult, 50p children
Organiser Preston Exhibitions 0658 880965

21–23 November
The Commodore Computer Show
Novotel, Hammersmith, London W6
Details Hardware, software and peripherals for the Commodore range of computers
Price £3 adults, £2 children, £1 discount for advance booking
Organiser Database Exhibitions, 061-456 8835

28–30 November
The Atari Christmas Show
New Horticultural Hall, Greycoat Street, Westminster, London SW1
Details Hardware, software and peripherals for the Atari range of computers
Price £3 adult, £2 children, £1 discount for advance booking
Organiser Database Exhibitions, 061-456 8835

29 November
Wight Computing Fair
Ryde Town Hall, Ryde, IoW
Details Local show covering wide range of subjects
Price N/A
Organiser Wight Computing Users Group, 10 John Street, Ryde, Isle of Wight PO33 2PY

Prices, dates and venues of shows can vary, and you are therefore strongly advised to check with the show organiser before attending. *Popular Computing Weekly* cannot accept responsibility for any alterations to show arrangements made by the organiser.

Free flightsim from Microsoft

MICROSOFT is offering a £29 95 hotline support package to go with its new low-cost PC products, *Word Junior* and *Multiplan Junior* The package gives you 12 months telephone support and comes with a free copy of the Microsoft *Flight Simulator,* which usually costs £45

Unfortunately it doesn t seem possible to get the free *Flight Simulator* without buying *Word* or *Multiplan* first, as you ve got to send a coupon in

Einstein owners join the Elite

TATUNG Einstein owners can now play *Elite* with the aid of the company s Spectrum Emulator The emulator, which costs £49 95 plugs into the Einstein and operates in conjunction with software that allows 20 Spectrum games, including *The Hobbit, Decathlon* and *Elite* to be played on the machine

At £49 95 for the Emulator and £9 95 for the software it s something of an investment, but it is cheaper than a Spectrum

Details from Tatung UK, Stafford Park 10, Telford Shropshire TF3 3AB Tel 0952 613111

Training for Amstrad PC

FIRST Class is organising a training course for Amstrad PC owners at its training centre in Basingstoke The one day course costs £65 and covers the PC s hardware, operating system and bundled software

Details from First Class, Intec 1, Wade Road, Basingstoke, Hants RG24 0NE Tel 0256 463344

Tandy to sell cheap PC programs

TANDY is to back up its 1000EX low-cost PC compatible with a range of cheap software, to be sold through its stores from the end of this month on On the serious side the software includes the *Trust Writer Wordstar* lookalike at £49 95, Lotus clone *VP-Planner* (£99 95) and *Multiplan* (£79)

Details from Tandy UK 0922 477778

Accounts pack for Compact

MEADOW Computers has issued a Master Compact version of its *Micro-Trader* program The sales and purchase ledger has been enlarged to 1 000 accounts, with 5,000 transactions per month per ledger The program costs £230

Meadow is also selling Master Compact versions of the *Micro Stock* stock control program at £86 25 and an *Extended Payroll* program for the *Micro Trader* suite at £57 49

Details from Meadow Computers 11 London Street, Whitchurch, Hants Tel 025682 2008

High resolution mono monitor

THE BIM 12 PC is a £99 high resolution monochrome monitor for IBM PCs and compatibles The monitor has a 12 inch screen and needs a Hercules standard card in order to connect it to the PC

Details from Hantarex Unit 2, 243 Kangley Bridge Road, London SE26 5BA Tel 01-778 1414

Competition

Join in with the Archers!

Forget Lofty s plight in *EastEnders* Stop worrying about how the *Dallas* scriptwriters will cope with having to write off an entire series as a figment of Pam s imagination This is the Big Daddy soap opera of them all – *The Archers*

The Archers is now the world s longest running broadcast serial, and has just become the subject of an interactive fiction computer game by Mosaic Publishing

To celebrate the occasion Mosaic has come up with 20 copies of *The Archers* game to give away to *Popular* readers, and we ve racked our brains to come up with the competition to go with it

How to enter

And here it is! All you have to do is think up some suitable lyrics to go with *The Archers* radio signature tune you know, the one that goes Dumdy dumdy dumdy dum dumdy dum dy da da, dumdy dumdy dumdy dum dumdy diddly da

That s it Nothing rude please, and something with a (vaguely) *Archers* feel to it would be appropriate

Conditions

The closing date for *The Archers* competition is Friday November 14 The 20 people who submit the best set of lyrics in the opinion of the judges, will each receive a copy of *The Archers* for the machine of their choice

Winners' names will be printed in *Popular Computing Weekly* November 27

One entry only per person, please

Fill out the coupon, or a photocopy and send it to *The Archers* Competition, *Popular Computing Weekly,* 12–13 Little Newport Street, London WC2H 7PP

Name

Address

Suggested lyric

If I win I would like a copy of *The Archers* for **Spectrum** ☐ (tape) **Commodore 64/128** ☐ (tape) **Amstrad CPC 464/664/6128** ☐ (tape ☐ or disc ☐) **Atari XL/XE** ☐ (tape) **MSX** ☐ (tape) **PCW 8256/8512** ☐ (disc)
Tick appropriate box

The faces behind the voices on the Archers

Letters

The whole Spectrum

For the benefit of your Spectrum 128 owning readers, here s an update on the National 128 Spectrum User Groups activities since its formation in June

I was flooded out by membership applications and by early July, with the help of Kim Foley, I set up a Micronet Bulletin Board, Heatsink to keep members in touch with all the news, views and reviews of interest to discerning 128 owners I have now extended this idea to produce a 'tapezine'

Membership of the group is open to all 128 and Plus 2 owners and any Spectrum 48K owners thinking of upgrading It costs (including subscription to Heatsink) £5, payable to Mr N Fadnes at the address below

The release of the Plus 2 should mean that at long last 128 owners will have proper 128 software The overwhelming support that the National 128 Spectrum user Group has had only goes to show that far from being a white elephant the 128 has only touched the surface of its possibilities

Nev Fednes
6 Derby Street
Mossley
Ashton under Lyne
Tameside

Less than Einstein's brilliance

On reading your review of Tatung's Einstein 256 computer in the October 9 issue of *Popular Computing Weekly*, I feel compelled to point out inaccuracies in the review

The reset facility is obtained by simultaneously pressing *Alpha Lock*, *Control* and *Graphic* keys This feature cannot be disabled in software, as implied by Duncan Evans

The statement that Tatung is working on Amstrad emulation programs is incorrect Two such programs were developed by third parties, which are *Amtat* by ACC Computer Services of Abergele and *Amtel* by Syntaxsoft of Burnley

Both programs are available now Amtat was available at the launch of Einstein 256 at the *PCW* show! Your reviewer seemed to think the Amstrad emulation wasn't yet available

There seems to be a misunderstanding about Einstein 256's memory organisation Duncan Evans said that the Rom used up 16K of the cpu's 64K of Ram This is quite untrue, the cpu has access to, and uses the whole of, the 64K of Ram The 16K Rom is bank switched in when needed

In comparing Einstein 256 with the Amstrad fleet Duncan Evans implies that the software base for Einstein 256 is poor, particularly for 'serious' use Einstein 256 has already, over 500 titles available, ranging from programs such as *Wordstar Professional*, *DBase II* and *Multiplan* to games such as *Manic Miner*, *Spacetrap* and *Batman* Software houses such as Orion, Software Projects Ocean, Mikrogen, Hi-soft, Gremlin Graphics, and Konami are all writing software for the machine, and at least three of them are writing high resolution games

A point seemingly missed is that Einstein 256 is compatible with Einstein, and can therefore use its software base

When referring to the 'well-established 8256/8512's', one can ask what happened to the well-established Einstein, which is still in production here in Telford?

The general impression I get is one of a heavy bias toward Amstrad to the detriment of objectivity Whilst I concede that Amstrad is a volume seller this does not of itself speak for technical excellence or value for money In terms of features, performance, specification and reliability, our products far outstrip Amstrad As to price, Einstein 256 is 15% less that the PCW Einstein 256 is £399 including Vat and comes with a *colour* monitor The PCW is £399 ex Vat (£458.55 inc Vat) with a *monochrome* monitor

Dr R Clarke
Technical Manager
(Computers)
Tatung (UK)

The impression that Tatung itself was working on the Amstrad emulation programs was gained because they were being demonstrated on Tatung's stand at the *PCW* show, and thus presumably have Tatung's endorsement.

***Amtat* was given the opportunity by one of the *Popular* staff to run *Wordstar* on the Einstein – it didn't work**

Your point about the Einstein 256's memory organisation does not appear to take into account the fact that if the memory is bank-switched, then, while banking in 16K Rom, it does have access to 16K of the Ram

We did not intentionally imply that the Einstein's software base as a whole was "poor" compared to Amstrad's, but that the type of software suitable for the Einstein fell squarely into Amstrad territory. Comparison

continued on page 11 ▶

Puzzle

Puzzle 230

I have one of those digital alarm clocks on my bedside table It operates on a 24-hour system and displays the hours and the minutes There are four digits in the display, two for the hour, and two for the minutes

Sometimes I find that if the digits of the display are read in reverse order, the result also produces a time on the 24-hour clock For example, the display 05 11 would produce 11 50 when reversed

In twenty-four hours from 00 00 to 23 59 there are 1,440 different times displayed How many of these times will produce a possible time when they are reversed?

The other day I looked at the clock before going to sleep When I awoke I noticed that the figures were now in reverse order I had had between seven and three-quarters and eight and a quarter hours' sleep

Can you say what these times were?

Solution to Puzzle No. 225

The bicycle cost £48 82

The program uses two *For/Next* loops for the pence and pounds value of the cost of the bike Line 40 converts this value to the amount in pence

The pounds value is then converted into a string (*X$*) and the two digits are reversed in line 60 into string *Y$* Line 70 takes this value and adds it to the original pence value times 100 This in effect reverses the pounds and pence values If this sum is equal to twice the original amount minus £5 (600 pence) the results are printed

Winner of Puzzle No. 225

This week's winner is Michael Greenan of Billingham, Cleveland, who will receive £10

Rules

The closing date for Puzzle No 230 is November 10 Answers on a postcard please

```
10 CLS
20 FOR PENCE=00 TO 99
30 FOR POUNDS=10 TO 99
40 AMT=POUNDS*100+PENCE
50 X$=STR$(POUNDS)
60 Y$=RIGHT$(X$,1)+LEFT$(X$,1)
70 Y=PENCE*100+VAL Y$
80 IF Y=2*AMT-500 THEN PRINT POUNDS,PENCE
90 NEXT NEXT
```

was made with the Amstrad range because the package – Z80 processor cpu, plus monitor and 3 inch disc drive – is directly competing, and the capabilities are similar.

We used the term well-established for the 8256/8512s with reference to the Amstrad's user base rather than longevity – and would be surprised if the original Einstein had sold as many in the UK as the PCWs

Power tripping

I find it inconvenient to have to take my monitor everywhere I take my Amstrad 6128 computer, as the monitor contains the power supply for both the computer and the disc

Can anyone notify me if you know of anyone marketing a suitable power supply?

Lee Barton
Runcorn

No more GAC

I don t mean to continue the *Quill* vs *GAC* debate, so I won t, even though I could rattle off a string of comparisons in favour of one or the other

What I would like to say is that I find the Amstrad *GAC* keyboard repeat rates in the drawing part of the program too fast and I m sure that if many authors were to step through their drawings they would find that they have wasted many bytes with repeated commands

Now on to the subject of different character sets on the Amstrad *GAC* No I don't have the solution, but I do have an idea

When I use my *Quill* I have a Basic header program, which first loads up the character set, then the main program, and calls it instead of autorunning it I have found that a *GAC* adventure loads into an area of memory too low for a Basic program to reside anywhere

Now I'm sure that some machine code whizz out there can write a small routine (preferably relocatable) that will reside somewhere up near high memory that would load in an alternative character set then the main adventure and call it

I can provide the memory locations if need be, so, please, can anybody help?

Lee Ford
84 Stavordale Road
Carshalton
Surrey

You just plug it in and it disables the keyboard

Luxury dump

I thought some of your readers might be interested to know how to get screen dumps of pictures created using *Koala Painter* as the program does not allow for such a luxury I cannot claim credit for the screen dump routine, however, which was printed in *Popular* September 18, and was written by D Farrow

Firstly a machine code monitor is required Don't be put off by this if you don't know anything about machine code as the operations involved are both brief and simple Any monitor will do as long as it has a command to copy a block of memory, allows loading of files and allows you to exit to basic

Type in the program from the September issue make sure it s working okay then save it to tape or disc Alternatively send me a stamped addressed envelope and 50p (for a cassette) and I will send you a copy of the program

Next load your monitor program and type the command to load a file and load the picture drawn with *Koala Painter* Don t forget the reversed heart symbol at the beginning of the name

Now type in the command to copy a block of memory The block to be copied is from *$6000* to *$7F3F* and is to be copied to memory starting at *$2000* Now exit the monitor back to basic and load the multi dump program When loaded, type *Sys49152* and you will see your picture Full instructions for the screen dump program are given in the September 18 issue

I hope this is of some use to all the frustrated artists out there who would like to see their work in a hard copy form Incidentally, if anyone is thinking of getting a monitor/assembler for the purpose, I would recommend *Zeus* as it is perfect for the job

Peter Dent
Co Durham

MTX Fanatic

Being a fairly regular reader of the general computing press, I offer your readers a few moments of relief from articles about Amigas or Amstrads

Having been attracted to the MTX 512 since it's launch, I couldn t resist one at the latest price Having been shunned by the software houses, it is essentially a hobbyist s machine and was so purchased as my third micro

I agree with your two letters in the Sept 11 issue it is a powerful beast and is a joy to use but I must admit to having many disappointments

Firstly, the manual It offers far more than usual info to beginners and experts alike, but not to the rest of us in between who understand Basic and are gingerly prodding the crust of M-Code

The memory map might as well be printed in Japanese It does not show the addresses of display screens, variables Basic or Character blocks etc There are no *Calls* given and one isn t shown how to access the lost 16K page(1) of Ram, nor how to enter graphics II mode What great use is the built-in assembler without such info?

The danger of entering ROM(n) without it being fitted is mentioned but not explained The later publication from Phoenix with its countless errors, omissions and misprints so common in lesser band-wagon books was no further help

I ve also been unlucky with the hardware This is the third MTX in as many months Modulator faults it seems things like losing eight pixels off the edge of the television on the left side, excessive hum and thick plots on certain colours and that damned annoying 'spit across the screen every five seconds

The function keys seem superfluous on default they do with one key what can easily be done with two! One can program them to hold extra patterns, etc, but I don t feel they could perform a defined function in the true sense However, they do retain a changed condition even after *newing*

Compared to Sinclair Basic, the logic is very inflexible You can t have for example *Goto 100 + (50 And A) + (60 And Inkey$ = "B") or If U and walls = 0 3 Then*

And must apparently follow *If* and then only between arguments, not conditions One is forced to use *Else* by way of compromise Fortunately one doesn t need the laborious and cumbersome *Left$ Mid$* or *Right$* as the MTX equals Sinclair in general string slicing

Sadly missed is *Merge* or similar Without this, there seems no hope whatever of developing simple data manipulation programs, which by necessity store the data in arrays in the variable file

Due to what must be one of the biggest design foul ups in computing history all variables are cleared every time a program line is entered I wonder why Memotech found this great sacrifice necessary?

Loading is like the old ZX81 where either the whole program is loaded or *totally zapped out, zilched!* It is just as finnicky about signal levels too, but without the added loading lines in the display to act as a guide to signal level

Sound and graphics, though are really something else In Basic their execution almost equals that of some Spectrum M-code, and the recently used yardstick *Manic Miner* could I am sure, be quite acceptably produced in MTX Basic!

No doubt, as I gradually discard my 'running-in sign on this MTX I might discover more little quirks Perhaps by then also I might discover how to access the Speculator Rom to interchange other similarities than those provided on *Gamestape 1*

All this said, the MTX is one hell of a machine for the money

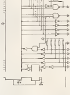
G Payne
Bushey
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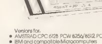
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Hard work and miracles forecast

> "It can be argued that regression analysis is an important tool for any business interested in making predictions about sales, etc"

Forecasting comes from the Amstat stable, publishers, of tremendous value statistical packages for home users. This particular package deals with aspects of multiple and linear regression analysis – so why isn't it called Regression Analysis? The answer is that unlike many statistical techniques which have a largely technical or scientific application regression is a means of studying trends in data and the possible uses are too widespread for it to be limited to specialist applications.

It can be argued that regression analysis is, or should be an important tool for any business interested in making predictions about sales, etc, or that wants to find out which components of their business strategy seems to be contributing most or least to their success.

To help reduce costs Amstat manuals are usually rather brief. Beyond teaching the mechanics of the program you are just pointed towards suitable textbooks for more detailed information on the way different tests work. Fortunately, bearing in mind the possible lack of training and heavy demands on the time of business users *Forecasting* is accompanied by a very clearly written and easy to follow manual which succeeds in being both educational and practically orientated.

The result is that within about half an hour you can perform extremely complex computations on your data with only a few simple keypresses.

As with any statistical package the quality of the results really depends on the value of the data you are able to enter and forecasting cannot be expected to provide magic answers without some hard work on your part. However on the whole this is probably the strongest Amstat release yet, high powered tests at extremely low prices and backed up by much improved documentation.

Tony Kendle

Program Forecasting **Micro** Amstrad CPC/PCW **Price** £29.95 **Supplier** S C Coleman, 33 Leicester Road, Ashby-de-la-Zouch, Leics LE6 5DA

Switching back and forth with K-Switch

Wouldn't it be lovely if your micro could do two things at once? Well, K-Switch doesn't offer that facility (you can't turn a 520ST into an Amiga for £29.95 yet) but it does allow you to load two programs simultaneously and switch from one to another as desired. This can be incredibly useful if you want to transfer information from a data base to a word processor or a spreadsheet or whatever. For my particular musical interests, applications could include switching from a sound editing package to a compositional package and so on.

The obvious limitations are there – *K Switch* divides the micro's memory in half and so you won't be able to use it with anything which takes up the whole memory. Presumably on database-type applications you'll find that the program could run out with the total capacity artificially limited.

But many of the Kuma packages, such as *K-Spread* and *K Graph* work happily together using *K-Switch* so at least you know where you are with those. For your own combinations, you'll just have to use 'File Show Info' to ascertain how many bytes a program on disk uses up, and perhaps get the retailer to check that your two favourite programs will run happily together.

When running *K-Switch*, you'll find that the operating environments for the two programs remain independent, so changes to screen mode or keyboard repeat rates for one program do not affect the other. *K Switch* includes a special common Ramdisc facility, since a Ramdisc (an area of memory simulating a disk drive but with much faster access times) used in one program would not normally be available to the other program running with it.

K Switch is installed from the desktop with no programs running, and you simply depress both Shift keys and Alt to swap programs, which takes about 1 second on a 1mB machine. Options include setting the size of the Ramdisc (with an indication given of the amount of memory remaining for the main programs) and these options are saved as default values. You can choose not to install either the Ramdisc or the Switcher, but you must install them together if you want to use them together.

K Switch also allows you to save the current file and its environment into one file so you can 'put away' your word processor with its current piece of work if you have to leave it to go on to something else. This function is labelled 'Save Worksession'.

The Ramdisc can be saved as a single block too, and you can disable the 'Verify After Write' function to double saving speed – if you want to take the added risk of disc errors getting past the system.

Because *K Switch* will generally remain loaded if one of the programs crashes, it can help you to examine "bug-ridden" programs and allow you to reload a previous worksession over a crashed program. You can remove the Switcher (and Ramdisc if you like) at any time, but it's not possible to remove the RAM disk alone once it has been installed with the Switcher. A good selection of warnings keep you up to date as to what information will be lost if you do this.

K-Switch doesn't take much account of peripheral activity and so shouldn't be used in the middle of printout, disc transfer or RS232 sessions – as we've mentioned, there will no longer be any activity in the de-selected program. You can't use K-Switch with any program on a "boot disc" as *K Switch* is removed if the system is rebooted. K-Switch itself uses just 19419 bytes.

Overall the usefulness of the program will be defined by your exact applications for it. In some ways, to quote the sleeve blurb, it is "even better than having two machines side by side", since the Ramdisc speeds up data transfer no end. If you are already working with *K Spread*, *K Word* or *K-Graph* and find yourself loading and unloading software all the time, £29.95 is a small enough price to pay for the saving in time and increase in efficiency which you can make.

Mark Jenkins

Program *K-Switch* **Micro** Atari 520ST/1040ST **Price** £29.95 **Supplier** Kuma, 12 Horseshoe Park, Pangbourne, Berkshire RG8 7JW, 07357 4335

Look for this box

Consolation for the games player

John Cook chronicles the return of the console

Quote 'And those that shall come first shall come last,' etc, etc Surely not? In the home computer market? Oh yes this Christmas (marginally) and next year (for sure) dedicated games consoles may well overtake home computers as far as straightforward entertainment purposes go And how strange that will be

Remember back in the mid-seventies? Even before the ZX 80 was a gleam in Sir Clive's bank account? Do you remember the games consoles? Those glorious days of the Binatone, Atari and Intellivision Those days when you mortgaged your house to buy a console, then mortgaged ypur cat to buy the cartridges and away you went block graphics and all It takes all sorts but I still know people associated with a foremost(ish) programming house that swear by the Atari cartridge version of *Defender* However it's no secret why the dedicated consoles eventually lost out to the hybrid computer/consoles and then to the full blown computer itself

After all you can't do your word processing on a console or hook up to Prestel – and paying out £30 or so for several Eproms packed into a cartridge was far from an inexpensive business

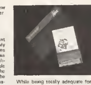
In short, the question was why pay for an inflexible technically inferior system when you could buy a home computer? People voted with their wallets and the rest is history Yet the fact is this week sees the official announcement of one major games console (the Sega Master System, marketed in the UK, Germany and Holland by Ariolasoft) and two more consoles (the Nintendo and the new Atari) will be out here pretty soon after So what's changed?

That's entertainment

The fact is, the home computing market over the past three years has slowly polarised into two camps – the games players and the buffs Games players use their computers, usually low-end machines almost primarily as programmable consoles Plug in the joystick, load in the games and away you go, whereas the buffs (often with more expensive ma-



chines or peripherals) while often using the thing for entertainment purposes will spend a great deal of their time actually programming the thing, or using it for some other purpose



While being totally adequare for the latter function, almost all home computers don't act very well as simple arcade consoles The need for a keyboard, interfacing, considerable amounts of onboard Ram etc, and the lack of advanced graphics chips, games orientated hardware routines plus in some cases, something as elementary as a joystick port, mean that almost all low cost machines don't come up to scratch Add the chore of waiting for your favourite game to load and the case for a dedicated console starts to take off Enter the Sega Master System

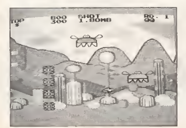
The Master System

Sega in case you didn't know it, is a Japanese multi-national which happens to be one of the world's leading manufacturers of dedicated coin-op arcade machines such as *Space Harrier* and *Enduro Racer* The Master System package consists of the main unit, the power base and two control pads – together with an AC adaptor and a game on Sega Card, called *Transbots* But perhaps, the most interesting thing about the Sega is the price – £99 95 And that's pretty cheap for a system that manages to deliver arcade quality games far more consistently than most home computers

Hardware

At present very little is being said about the detailed hardware spec – partly no doubt, because of paranoia partly through ignorance as there are only three machines in the country However, it can be revealed that the main cpu is a Z80A running at 3 6MHz with 8K of Ram and 16K of video Ram However, the outstanding asset of the machine must be the custom video chip – rumoured to be the same as that used in the stand-alone *Spy Hunter* machine

This allows 32 colours to be used at one time (from a palette of 64) with a screen resolution of 256 × 192 pixels – compare that with 16 colours and 320 ×



200 resolution on an Atari ST (driving a normal telly) and it doesn't come off badly. Hardware sprites, 32 on a single screen from up to 256 and hardware scrolling routines mean real business as far as shoot em ups go. Sound isn't neglected either with three four-octave sound channels and white noise generator for those really meaty explosions.

Naturally, connections to the outside world are few. One port for cartridges on the top, one slot for cards on the front. On the back it's one output for the TV, one A/V (audio visual) socket that'll connect up to an RGB monitor or hi-fi if you prefer a few extra decibels, together with the obligatory power in and a widgit that'll change the output from VHF channel three to channel four. Power on/off, system reset and pause switches finish the line up – apart from two ports where you plug the controllers in.

These controllers are mini-joysticks with two independent fire buttons and are small enough to hold in the palm of your hand.

The games, of course, are the real object of the exercise and at the moment you have eight to choose from – two on Sega Card, *Transbot* and *Hang Up*, with six on cartridge: *Black Belt*, *Fantasy Zone*, *World Grand Prix*, *Choplifter*, *Action Fighter* and *Astro Warrior/Pit Pot*, all going at £19.95. The difference between the cards (looking similar to Astron-type cards) and the cartridges are said to be memory size: cards weighing in at 32K and cartridges starting at 128K. That's a lot of game. Let's start with *Transbots* – bundled with the system.

Transbots, like most of the games on offer, isn't going to tax your intellect, but has pretty damn smooth right-to-left scrolling and plenty of colourful sprites to shoot the hell out of. Instructions are written in hilarious English translation, but the plot is standard 'save the earth from the aliens' stuff with the added bonus that you can transform your CA-214 motor into all sorts of deadly devices.

The graphics from *Astro Warrior* were the inspiration for Andrew Braybrook's *Uridium* – but see Firebird's *Warhawk* for a much inferior version of this vertical scrolling blaster.

Hang On and *World Grand Prix* are both fairly straightforward racing games – one motor bikes, the other cars, while *Black Belt* is a cross between *Yie Ar Kung Fu* and *Kung-Fu Master*.

The best straight arcade conversion is probably *Choplifter*, which has you rescuing hostages by helicopter – a classic that is done proud here, but awards for the weirdest game go to *Fantasy Zone*. Put on the sunglasses and away you go in outrageous day-glow interior designers will be driven insane by the colour combinations used in this one. And finally *Action Fighter* – the title that outrageously plagiarises almost every coin-op you can think of, from *Galaxians* upwards, but has enough in it to keep you blasting for weeks.

Conclusions

Put simply, the new generation of games consoles – Sega, Nintendo and Atari – can do straight off what it has taken four years to get anywhere near on the Spectrum, that is, superb multi-colour sapping. Only the Commodore 64 comes anywhere near this standard and then only rarely with titles such as *Summer Games* and *Uridium*.

They will never replace home computers as far as strategy or adventure games are concerned – but they mark the beginning of the end for the low end HCs which are primarily marketed as games machines – and that has some pretty profound implications for a large chunk of our industry.

The cons are the usual – software support, lastability and so on. By the middle of next year there will be at least three competing machine standards and you might be wise in deciding to wait and see which comes out on top. But as far as this Christmas goes, Sega looks like it's the only contender in the shops.

Another quote: 'I have seen the future.' And let me tell you – it's fast and very, very loud indeed.

The quest for the perfect adventure magazine

Tony Bridge assesses some of the multitude of fanzines

It s been a few weeks since I looked at magazines for and by adventurers, but that hasn t stopped them flooding into the office I m glad to see that there is still such enthusiasm for adventures even though arcade games (and so-called arcventures) seem to be getting a stronger hold then ever over the software market

Tony Treadwell s name crops up in a lot of these fanzines, and now I ve finally seen more copies of his own efforts, *The Questline Chronicles*, or rather the efforts of Tony and several (at least a dozen!) helpers I m sure that these affairs work better when the workload is shared – after all no-one can hope to be an expert on all aspects of the hobby

In this case, the partnership works well, with D&D New Releases, Infocom corner and Aardvark Action (devoted to the aforementioned arcventures of course) all being looked after by individual contributors With these departments being supplemented by a puzzles page and plenty of hints tips and maps and reviews, the magazine is packed with plenty for everybody

> *"The aim of the club is to help frustrated adventurers from ending up in an asylum going mad with problems in adventures"*

The earlier small format of 45 some pages (looking very much like its friendly rival, *Orcsbane*, one of my favourite fanzines) has given way to large text on a similar number of large pages, which is not as attractive, but at least no information seems to have been lost in the process

The main magazine is sent out every two months, and there is also a monthly newsletter (haven t seen this one, though) all this plus the usual helpline service for just £6 a year Although the magazines are well-illustrated and the maps and solutions are well worth having I particularly liked the reviews They have a good rating system and seem to be well-reasoned and not afraid to point out bad as well as good points

The aim of the Club and magazine is to help frustrated adventurers like ourselves from ending up in any asylum due to the fact that they are slowly going

Adventure Helpline

Zork 1 on Commodore Plus/4. What do I do in the shaft room? How do I get into Hades – if I need to, that is Mrs Hayday, 25 Town Meadow Drive, Shefford Beds SG17 5EF

Spiderman on Commodore 16. Cannot make web fluid I have found baby formula and chemicals and tried mixing David Northem, 91 Goscore House 52 Sparkenhoe Street, Leicester LE2 0TL

House of Doom on Spectrum 48K What is the beautiful women for? Where can I find long key and step and number to open safe? Debra Cadd, 85 Oakfield Road, London E17 5RN

Finders Keepers on MSX How do I escape from the castle of spriteland? I ve entered 21 rooms in all Paul Clough, 101 Cathedral View Newbottle Houghton-le-Spring, Tyne & Wear, DH4 4HN

Macbeth (2) on Commodore 64. How do you raise the drawbridge? What do you seek in the alchemist s room? Michael Bradley 111 West Avenue Melton Mowbray Leics LE13 0JH

Hempstead on BBC B. Where is the Old Wykehamist tie and how do I get it? Duncan Jones 39 Long Reach Road, Cambridge CB4 1UG

Shadow of the Unicorn on Spectrum Any help at all please! K W Adam, 19 Naverre Street, Dundee DD5 2TW

Seabase Delta on Spectrum How do I use the tigerfish missile? How do I keep the sliding doors open? Brett Norris, Rama St Martins Close, Keevil Trowbridge Wilts BA14 6NJ

See-Kaa of Assiah on Spectrum Where is the casket? Where is the blowpipe? How do I get the rod of light out of the block of ice? Brett Norris, Rama, St Martins Close Keevil, Trowbridge Wilts BA14 6NJ

The Pawn on Atari ST. How do I escape from the maze of featureless rooms? Andrew Jones, 4 The Ridings, Worlingham, Beccles Suffolk NR34 7RG

Zkul on QL. Where do I blow the horn? Where do I pick up the scroll without Taradon taking it from me? Where are the bow and shield? Andrew Nixon, 20 Farrar Street, Barnsley, South Yorkshire S70 6BS

Adventure Helpline

Going bananas? If you are stuck in an Adventure with nowhere to turn do not despair – help is at hand

Fill in the coupon, explaining your problem send it to us, and a fellow adventurer may be able to help

Remember – the system only works if those adventurers who have solved the puzzles get in touch Every week is Save An Adventurer Today (SAAT) week!

Adventure .... on (Micro) ....
Problem ....
Name ....
Address ....

mad with various problems in their adventures' I know the feeling well!

Questline can be reached at 34 Crossgates Ring Road Leeds W Yorks LS1 8RD (This address is actually that of Jean Thorne who is responsible for the excellent Puzzle Corner and *not* the subscription Department, but she will pass your enquiries on)

In *Popular* June 26 I mentioned the Spectrum Adventurer Exchange Club William Young of SAEC has now brought me up to date on activities there Of special interest is a cassette-based magazine called naturally *Spectrum Adventurer* and contains everything you d expect including news, reviews, tips and so on Although tape-based magazines have been with us for some while this is the first (that I know of) dedicated to the hobby of adventuring, and a mixed bag it proves to be The tape contains several programs the usual magazine-ey type of things, such as letters (from the ubiquitous June Rowe), reviews, competitions, adverts and so on – and also an adventure It s a serial, now in its third instalment called *Space Odyssey* Although it is standard *Quill'd* fare, there is a lot of atmosphere in the rather brief descriptions and most inputs get an intelligent response – obviously a lot of thought has gone into constructing the storyline

Also on the tape is an appearance by The Bird and The Balrog who seem to be the dual personae of one John Wilson often mentioned in the Corner and provider of much wisdom over the years (as well as being the writer of *The Boggit*, no, not that one but the other one mentioned alongside CRLs a couple of weeks back – John s is now re titled *An Everyday Story Of A Seeker Of Gold* and available from him costing a mere £1 99 at 26 Spotland Tops Cutgate Rochdale, Lancs OL12 7NX, and worth every penny) The format here seems to be a review followed by hints and tips having had first-hand experience of John s encyclopaedic knowledge of Spectrum adventures, I was disappointed that these tips amounted to a mere handful of one liners, a major opportunity lost for a full scale run down on the tough games from a real expert

There s a lot on the tape as you can see and the adventure makes the whole thing good value but I feel that the computer could have been used to more effect – and more hints and tips would have been welcome (and maybe an on-screen map or two) However, the magazine is well presented with (almost) no spelling mistakes and some attractively re-designed character sets (and the bird from Procom s graphic utility) Each issue is £2, though you may take out a subscription for a hefty discount of 25% You can write to SAEC at 4 Kilmartin Lane Carluke Lanarkshire ML8 5RT

Camel Micros will be well known to adventurers for its adventure-writing utility for CRL *Genesis* It has recently started up Camelclub initially for adventurers it is now attracting members with more general interests Weighted towards Amstrad users, there is none the less plenty here for everyone There is page after page of technical advice writing in Basic, how to write and solve adventures pokes for arcade games, special offers letters hints and tips and all the rest Possibly of more interest is a scheme for adventure-writers to join together in an effort to duplicate and market games The monthly newsletter is £1 per issue (a bit steep), or £9 for 12 issues (a bit better)

Camelclub is at Wellpark Willeys Avenue Exeter Devon





SO WHAT'S NEW
IN LLAMALAND (HANTS)?

JEFF MINTER, our long haired Peruvian Correspondent is off to the land of INCA COLA once again...

LEAVING A FEW SOFTWARE ARTIFACTS BEHIND...

For the CBM 64

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For the CBM 16

** **MATRIX & LASERZONE** – [illegible] for the C16 [illegible] published jointly with ARIOLASOFT £6.95 [illegible]

** **VOIDRUNNER** – [illegible] HELLGATE [illegible]
– coming soon from LLAMASOFT and ARIOLASOFT

AND ALL THIS

** **VIVA VIC!** [illegible] TRAXX, MATRIX, HELLGATE, LASERZONE etc. £6.90 all on one tape

** **YAK'S PROGRESS** [illegible] ATTACK & REVENGE OF THE MUTANT CAMELS, ANCIPITAL, SHEEP IN SPACE [illegible]
can't whack it at £9.45 (2 tapes) or £11.95 on disc.

AND LIGHTSYNTHS TOO

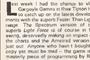
[illegible] LIGHT SYNTHESISERS [illegible] **PSYCHEDELIA** [illegible] £4 [illegible]

COLOURSPACE [illegible] ATARI 8-bit [illegible] £7.50 [illegible] BBC B (tape, £7.95) [illegible] ATARI 520 ST (£19.95)

FUTURE: After the Peru trip the Atari ST is due for a [illegible] a new project is planned which should be totally ZARJAZ. Suffice to say that COLOURSPACE addicts should expect something interesting in 1987...
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Poking around in Knight Tyme



Tony Kendle brings you the latest readers' tips for this game and more

Last week I had the chance to visit Gargoyle Games in their Tipton HQ to catch up on the latest developments with the superb Faster Than Light range The Spectrum version of the superb *Light Force* is of course in full swing, deservedly making an impact on the charts and the Amstrad version is just out Anyone who hasn't bought a copy yet must be mad – the game is a masterly piece of programming by Roy Carter and is wildly addictive

The Spectrum version caught everyone's attention for the almost unnatural way it seemed to defy attribute clashing problems yet still pack the screen with colour The Amstrad version is just as clever in a more subtle way – the quality of the scrolling and the action that goes on is difficult to achieve on a 16K screen but it's been done with such style that it's easily the best shootup I've seen on the machine

The Commodore version is being completed now and no doubt will again pull out all the stops The second FTL game *Shockway Rider* is likely not to appear until after Christmas but the team is confident that it is going to be superb

Now then, I have an apology to give to Tracey Rogers of Didbury for delaying this plea for help but she has landed in a terrible fix in Romantic Robot's *Wriggler* and desperately needs pokes or some foolproof tips for this game (Spectrum version) I'm sure that it wouldn't be beyond the ability of some of our more accomplished hackers to get into this game and send me the details to end her distress

Stuart of Heywood has written about the *Jet Set Willy* pokes which we published for the BBC some weeks ago – which is in fact only for the tape version of the game If anyone can produce a poke that works on the disc version we will be very pleased to hear from you Anyway, Stuart has kindly sent in a poke of his own for endless lives on the BBC game *Thrust* The poke doesn't stop you from losing if you run out of fuel

Now then, to start on the huge pile of *Magic Knight* pokes and tips that we have collected over the last few weeks Before concentrating on *Knight Tyme* I'm sure that we should really clear the decks regarding *Spellbound*

Especially for Paul Bukley of Liverpool, here at last is a full solution to the difficult problem that everyone seems to get stuck on about half way through the game

"The Spectrum version of the superb Light Force is of course in full swing, deservedly making an impact on the charts . . . Anyone who hasn't yet bought a copy must be mad – the game is a masterly piece of programming and is wildly addictive"

David Jones writes This is one of the most complex parts of *Spellbound* as it involves three main actions to be performed as a result of reading two quite cryptic clues The clues are both in the Crystal Ball and are, 1) The Tarot Card meaning Death, destruction and the demolishment of pride, etc, and 2) a noise and a religious book written in Hebrew etc Clue 1 is the interpretation of the Tarot card 'The Lightning Struck Tower – get Thor into the tower room and ask for help The tower will be struck by lightning causing The Wall to be weakened elsewhere in the building

Clue 2 is a reference to the Old Testament and the Walls of Jericho

continued on page 20 ▶

Charts

Top Twenty

1	(1)	Paperboy	Elite
2	(8)	Trivial Pursuit	Domark
3	(2)	Lightforce	Faster Than Light
4	(4)	Thrust	Firebird
5	(8)	Ninja Master	Firebird
6	(18)	Dan Dare	Virgin
7	(13)	Go for Gold	Americana
8	(–)	1942	Elite
9	(9)	Dragon's Lair	Software Projects
10	(–)	Ollie and Lisa	Firebird
11	(–)	Green Beret	Imagine
12	(–)	Kai Temple	Firebird
13	(–)	Ghosts and Goblins	Elite
14	(–)	The Great Escape	Ocean
15	(–)	Strike Force Harrier	Mirrorsoft
16	(14)	ACE	Cascade
17	(3)	Druid	Firebird
18	(12)	Video Poker	Mastertronic
19	(–)	Bomb Scare	Firebird
20	(–)	Super Cycle	Epyx/US Gold

All figures compiled by Gallup/Microscope

◀ continued from page 19

Give the Trumpet to Elrand Halfalvan and get him to the room with The Wall. Ask for help and Elrand will blow the wall down. As well as having more rooms to explore the two sections of wall can be stood on.

Take these back to the tower and pile them on top of each other and you will have enough height to get over the tower.

Here are one or two other clues that we only gave in a cryptic form. Lady Rosmer should be given a laser to go with her fuse. She will then blast through the wall at the entrance to the secret passageway in the room where Thor's hammer can be found.

Samsun has to be given a javelin and he will then throw the lump of platform into the pit to act as a stepping stone.

The broken glass will act as a magnifying glass on the small writing on the engraved candle.

Richard Fairhurst of Oakham has sent in a version of his memory searcher program that he has used on the Amstrad copy of *Knight Tyme*. Richard writes, "I thoroughly enjoy playing *Knight Tyme*, which is probably my favourite Amstrad game. Using the program I found so many tips and responses that I couldn't begin to list them all.

Run this program and load *Knight Tyme* from the start. When it has loaded press any key to start the memory dump. The space bar will pause it so you can write the messages down. Memory has obviously been saved by using lower case letters instead of commonly used words or part words.

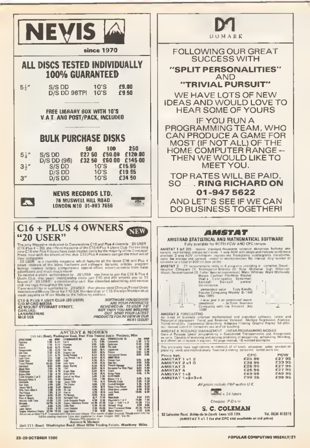
```
10 MEMORY 5240
20 LOAD  KTCODE  5241
30 WHILE INKEY$=""  WEND  CLS
40 FOR N=5241 TO 28260
50 P=PEEK(N) MOD 128  IF P>31 THEN PRINT CHR$(P)
60 IF INKEY$ = "  THEN WHILE INKEY$=""
WEND
70 NEXT PRINT  PROGRAM FINISHED  GOTO 80 TO RESTART
```

The program can be adapted to run on *Finders Keepers* by changing Line 20 to *Load "K"5241*.

Over the next few weeks we will have more tips and help for the Magic Knight games including a few details about the latest program from David Jones, and news about what's going to happen to those T shirts!

Thoust cheats on BBC

```
10REM (C) J.C.Smith
20 REM Dave Addison &
B.Davies
30MODE7
40PRINT CHR$130;CHR$157
;CHR$132;"Infinate Men ?
";CHR$156
50A$=GET$
60IFA$="N"I%=0:GOTO90
70IFA$="Y"I%=1:GOTO90
80GOTO50
90*LOAD THRUST3
100IF I%=1 THEN ?&2912=0
110CALL&5633
```



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The Great Escape: love it or hate it



Each dawn I die, as the saying goes. Like bundles of rags, haggard men with dead eyes shuffle across the bare boards of the freezing huts. There was a time when the sight of trees beyond the bars fired their souls with hope, but now they don't look at the window, they stare at their feet or gnaw at a dry crust of stale bread.

But enough of this everyday tale of programmers down on their luck – let's take a look at *The Great Escape*, Ocean's Colditz style bid to appeal to short sharp shock addicts. It's a curious program, a sort of Fairlight meets Long Kesh, set in a Second World War German prison camp.

You, Major Steve McQueen, have been incarcerated for the duration and must endure the tedium of prison camp life while at the same time putting together the necessary equipment to escape. You and the other prisoners are represented by the aforementioned bundles of rags, generally shuffling around aimlessly, while the camp is also peopled by greatcoated guards and the commandant.

The most interesting thing about the program is the way the play is structured. Each day in the camp has its routine, starting with roll call, then breakfast, then exercise time and ultimately bed, and if you leave your character to his own devices he'll follow this. So while you can go where you want you have to judge when you do this carefully, nipping in side doors on the way to breakfast then back out before you're spotted, for example.

The main display is of you, centre screen, surrounded by the part of the camp you're in, while the bottom and side shows the state of your morale and general heroism. Morale is shown by a flag, which in my experience sinks relentlessly down a pole in response to failed escape attempts (I suppose I need to find the motorcycle). Heroism influences your ability to get hold of various artefacts (nobody's going to give you a key if you're LMF) and can also be collected from failed escape bids.

On first impressions it looks as if there could be a lot to the game, but I have a nagging doubt that the tedium could prove too realistic for some people – does the Great British software buying public really want to hang around at roll call waiting for an opportunity to sneak off, one could ask? It looks like the sort of program you'll either love or hate, so don't blame me if you hate it. Personally I think I could grow to love it.

Popular Appeal ♦ ♦ ♦ ♦

John Lettice VC

Program *The Great Escape* **Micro** Spectrum **Price** £7 95 **Supplier** Ocean, 6 Central Street, Manchester M2 5NS

Pretentious and galvanising Galvan

As the last surviving member of Pretentious Organisation Inc you are sent to the Caverns of Doom or whatever, in the planet Yawn to eliminate all the adversaries you can lay your paws on. Since these foes are Evil it's obviously an okay thing to commit genocide.

Aha! Catch one is you don't have any weapons in your quest to exterminate these droids, robots and aliens. Catch two is this isn't a martial arts thrash. This puts you in serious trouble until you find some weapons beyond your feeble ability to punch. These weapons appear in the form of power crystals which give you extra power (what a surprise!) and an improved weapon. And then it's killing time as you go in search of things to kill, culminating in the hopeful killing of the Giant Demon at the end of each level.

The graphics are presented in a 2D side on perspective with very colourful backgrounds. The problem is that the background is too colourful and all the foreground objects, your good robotic self included, tend to blend in, making it occasionally difficult to see precisely where you are.

Popular Appeal ♦ ♦

Duncan Evans

Program *Galvan* **Micro** Amstrad CPC, Spectrum **Price** £9 95 **Supplier** Imagine Software, 6 Central Street, Manchester M2 5NS

Spies amongst the horses

Dirty doings amongst the racing fraternity mean just one thing – we're on the Dick Francis track! The man who turned the Sport of Kings into the Sport of Criminals has entered the adventure game.

I'm no Francis aficionado but the opening of this Ram Jam adaptation seemed faithful to his thrillers in spirit, at least. You start in your house, with a lot to pick up before you answer the incessantly ringing phone. Next leap into your car, roaring off round the home counties, but keep an eye on the petrol gauge if you want to avoid highway robbery – an AA man with a tow rope.

The presentation is pleasant, with location descriptions appearing above the main communication window. Some objects only appear in this main window though, so watch it carefully. The vocabulary doesn't seem to be that big and the parser becomes confused at times.

The B-side of the tape contains a racing game in which you study form then place the imaginary money on the animated nags.

I fail to see the fun in gambling an imaginary pony on an imaginary pony, and the inaccuracies of this 'simulation' would make Francis, who is always factually accurate, demand a steward's enquiry.

All in all, your reaction to *Twice Shy* will depend on whether you like its subject matter. If you do, it's competent enough, but if not, you'd better shy away from it.

Popular Appeal ♦ ♦ ♦

John Minson

Program *Twice Shy* **Micro** Spectrum 48/128 **Price** £8 95 **Supplier** Mosaic Publishing

The funnier side of Dragon's Lair

Wanna hear something funny? Remember *Dragon's Lair*, arcade game with groovy graphics, courtesy of several grands' worth of laser disc? Animation designed by an ex-Disney artist? Well, here it is on that classic graphics machine – the Spectrum!

Okay, so the Spectrum can't deliver the ultra-high-res goods. In fact, to avoid that old devil attribute clash, hero Dirk is a shadow of his former self – a mere silhouette, indeed. But within the limitations of the machine, Software Projects has done a reasonable job.

They've chosen key episodes from the game, involving running, jumping and sword play, but the only way to contain all the code is via multi-load, which is aggravating if you're forced to go back to the beginning. This is an ideal case for the full 128K treatment.

I also found the loss of life sequence, where Dirk turns to a skeleton, then miraculously reincarnates, irritating. It may be true to the original, but it quickly became tedious.

You'll get to see it rather a lot, too. *Dragon's Lair* is difficult. In fact, I'm tempted to suggest that it's too darn difficult. I spent ages attempting the first section, sliding around a falling disc with four winds blowing, but failed time after time because it requires pixel accuracy.

This is just too much for the first sequence, and without the fantastic cartoon quality, the reward for persistence just isn't enough. If you loved the original, you may want this reminder for your micro. But so much has been lost in the conversion that it's not a classic – just a classic case of attempting the impossible.

Popular Appeal ♦ ♦

John Minson

Program *Dragon's Lair* **Micro** Spectrum 48/128 **Price** £9.95 **Supplier** Software Projects Ltd, Bearbrand Complex, Allerton Road, Woolton, Liverpool L25 7SF

Rogue addicts

Rogue is straightforward D&D type solo dungeoneering on a computer – but the ST graphics' ability and the warped minds that programmed the beast combine to make an outstanding hack and slay job.

You make your way through the dungeons of doom – all 26 levels of them – gaining experience as you fight varying monsters.

Other things you'll pick up are gold pieces, potions, scrolls, rings, extra weapons etc.

Not as sophisticated as *Swords and Sorcery*, but considerably more playable and long lasting (different levels are generated each time you play) – nice use of mouse, windowing and so on make this a near ST classic for the fantasy buff.

Popular Appeal ♦ ♦ ♦ ♦

John Cook

Program *Rogue* **Micro** Atari ST **Price** £24.95 **Supplier** Epyx, via Silica Shop, 1–4 The Mews, Hatherley Road, Sidcup

Mediaeval adventures

Those of you familiar with the Court of King Arthur will no doubt be eager to buy *Camelot Warriors*, Ariolasoft's faithful reproduction of knights, questing beasts, Holy Grails et al.

Well all right, maybe there weren't any poison kingfishers at Camelot. Or killer pigs. Or man-eating plants, Neptune's kid brother or electric eels. But the hero does look like a knight – until he turns into a frog, that is.

You'll have deduced from the above that *Camelot Warriors* is a somewhat free interpretation of mediaeval armoured warfare. It is, however, a colourful, frustrating and engaging arcade game.

It's split up into four worlds constructed out of scrolling platforms, and you must retrieve four items from the 20th century – including a light bulb and a TV – which have somehow got mixed up in them. Controls are simple: just left, right, jump and fire (to use your sword) and while it's not fast you need split-second timing to survive.

This could, however, prove to be a problem for players, as overcoming obstacles involves precise timing.

But although I feel it could usefully be a bit less rigorous, it does have a certain addictive quality, and if you don't mind being driven mad it'll keep you occupied until the van comes.

Popular Appeal ♦ ♦ ♦

John Lettice

Program *Camelot Warriors* **Micro** Amstrad **Price** £9.95 tape, £14.95 disc **Supplier** Ariolasoft, 68 Long Acre, London WC2

Jetmode

David Jones

Type in and run the listing. Then after correcting any mistakes save the code with *Save 0 Jetmode 900+1C0 900*

The Jetmode routine can generate screens like those seen in *Jet-Pac* and *Atic Atac* which are compacted to leave more memory for the program. To use Jetmode use the following construct –

A%=mode number (0–5 or 8)
X%=screen width (in characters)
Y%=length of screen (in characters)
Himem=USR &900 will change mode and return the start of screen memory

The program can easily be abused so here are some guidelines.

Don't call the program from within a procedure and make sure there is enough room for both screen and program else a *Bad Program* message will result.

Jetmode temporarily uses &600–&6FF and &70–&7F. It also sets up a lookup table at &AC0–&AFF and which must not be corrupted.

Do not use *VDU26* or hardware scrolling because it won't work and may run your program.

Finally do not use *VDU24* or *VDU28*. Instead use the window procedures given in listing two.



Listing 1

```
10 FOR[illegible]
20 [illegible]=1[illegible]
30 FORR%=[illegible]:READA%:[illegible]%=N%
40 NEXT
50 READP%:IFP%<[illegible] THEN [illegible]
m error at line ";L%:END
60 L%=L%+10
70 NEXT
999 END
1000 DATA &65,[illegible]
1010 DATA &C9,&9[illegible],&B9,&30B
1020 DATA &99,[illegible],&22,&AA,&AA,[illegible]
1030 DATA &A9,[illegible],&74,[illegible],&274
1040 DATA &A5,[illegible],&CA,[illegible],&316
1050 DATA [illegible],&85,[illegible]
1060 DATA &77,&D9,[illegible]
1070 DATA [illegible],&2F,[illegible]
1080 DATA [illegible],&75,[illegible]
1090 DATA [illegible],&72,[illegible]FB
[illegible] DATA [illegible],&AC,&23C
[illegible] DATA [illegible],&C8,&90,[illegible]
[illegible] DATA [illegible],&77,&49,[illegible]
[illegible] DATA &0D,[illegible],&AE,&70,[illegible]
[illegible] DATA [illegible],&20,[illegible]
[illegible] DATA [illegible],&AS,[illegible]
[illegible] DATA &9A,[illegible],&42F
[illegible] DATA &A2,&3,&BD,&95,[illegible],&29E
[illegible] DATA [illegible],&2E[illegible]
1200 DATA &9,&20,[illegible]
1210 DATA &A9,[illegible],&247
1220 DATA [illegible]
1230 DATA &85,&76,[illegible],&75,&A9,[illegible]
1240 DATA &38,&E5,[illegible],&85,&76,[illegible]
1250 DATA [illegible],&75,&266
1260 DATA &85,&75,&A2,[illegible]
1270 DATA &3,&2A,[illegible],&F9,[illegible],&34D
1280 DATA [illegible],&49,&278
1290 DATA &7F,[illegible]
[illegible] DATA [illegible],&45,&23.
[illegible] DATA &77,[illegible],&A7
1320 DATA &3,[illegible],&F9,[illegible],&37E
1330 DATA [illegible],&85,&72,[illegible],&1FD
[illegible] DATA [illegible],&72,&263
1350 DATA &2A,[illegible],&77,[illegible],&266
1360 DATA [illegible],&79,[illegible],&79,&257
1370 DATA &A5,[illegible],&69,[illegible]
1380 DATA [illegible],&7A,[illegible]
1390 DATA [illegible],&85,&75,&2BF
1400 DATA &80,[illegible]
1410 DATA [illegible],&AE,&AA,[illegible],&48,&25B
1420 DATA [illegible],&347
1430 DATA [illegible],&65,&72,&AA,&6[illegible],&45,&258
1440 DATA &73,&28,[illegible]
1450 DATA &EC,&A9,[illegible],&463
1460 DATA [illegible]
[illegible] DATA &A2,[illegible]
1490 DATA &EC,[illegible],&37F
1500 DATA &88,[illegible],&222
[illegible] DATA &C,&8D,[illegible],&52,[illegible]
[illegible] DATA [illegible]
1530 DATA &8E,&AE,&A,&A9,[illegible]
1540 DATA &70,&A2,[illegible]
1550 DATA &A,[illegible],&F9,[illegible]
1560 DATA &A,&8C,&AA,[illegible],&AB,&24[illegible]
1570 DATA &A,[illegible],&F7
1580 DATA &8E,&A7,&A,[illegible],&378
1590 DATA [illegible]
1600 DATA [illegible],&3A
1610 DATA &AE,&7[illegible],&56
1620 DATA [illegible],&DD,&F9,[illegible]
1630 DATA [illegible],&B6,[illegible],&ED
1640 DATA [illegible],&8E,[illegible]
1650 DATA [illegible],&FF,[illegible]
1660 DATA [illegible],&AD,[illegible],&33[illegible]
1670 DATA [illegible]
1680 DATA [illegible]
1690 DATA [illegible]
1700 DATA [illegible],&18,[illegible]
1710 DATA [illegible],&FF,&4,&FF,&3,[illegible]
1720 DATA [illegible]
1730 DATA [illegible]
1740 DATA &AE,[illegible]
```

Listing 2

```
10REM LISTING 2
20REM use this instead of vdu 28,L%,B%,R%,T%
30DEFPROCwindow(L%,B%,R%,T%)
40VDU28,0,B%,0,T%
50?&30B=L%:?&30A=R%
60 &34C=(!&34C AND&FFFF0000)+(R%-L%+1)*?&34F
70ENDPROC
80REM use this instead of vdu 24,L%;B%;R%;T%;
90DEFPROCgwindow(L%,B%,R%,T%)
100VDU24,0;B%;1279;T%;
110VDU29,L%,B%;
120IF?&355>3THENZ%=2:ELSEZ%=4
130 &304=(!&304 AND&FFFF0000)+R%*Z%/8*?&34F
140 &300=(!&300 AND&FFFF0000)+L%*Z%/8*?&34F
150ENDPROC
```

Wordcount

Programming: Atari ST

Roger Howorth

It can often be useful to know how many words a document contains, but sadly the Basic supplied with the ST is not the fastest around documents of only a thousand words can take up to one and a half minutes to count in Basic

With this in mind here is a word counting program that uses all of the nicest bits of Gem and counts the same thousand words in less than two seconds. A glance through the source code will show that indeed nearly all of its 5K is taken up with either remarks, which need not be typed or routines to make the program as user friendly as possible. In particular, the Gem Item Selector is used to obtain filenames from the user, and should anything go wrong a comprehensive error trapping routine is employed

Anyone who would like the program but has not got a C compiler, can send a £5 cheque or postal order to me, c/o *Popular* to cover the cost of disc, post etc, and a disc version will be sent by return

```
/* Word counting program.
   Counts white space(s) as word.          */

#include <stdio.h>
#include <osbind.h>
#define TRUE 1
#define FALSE 0

short phys_handle handle,dummy;
short pxyarray[6];
char pathsp[64]="A:\*.DOC";
char filename[64];
char file[16]="________ ___";
int button rc;


main()
{
   FILE *fp,*fopen();                    /* Define variable types     */
   gem_init();                           /* initialise GEM            */
   v_clrwk(handle);                      /* Clear screen              */
   dir();                                /* Get and check file name   */
   v_show_c(handle,0);                   /* Show mouse incase of US error */
   if ((fp=fopen(filename,"r"))==0)error(3);/* Open file,if not OK call error*/
   v_hide_c(handle);                     /* Hide mouse & output results .*/
   calc_cntr(2);                         /* Call calc_cntr            */
   printf("There are %d words in %s ",words(fp),filename);
   fclose(fp);                           /* Close file                */
   wait_click();                         /* Call wait_click           */
   main();                               /* Run again...              */
}


dir()
{
   int i 0;
   vs_curaddress(handle,25 30);          /* Position text cursor      */
   puts("Enter CANCEL to quit.");        /* Then print out prompt     */
   ...();
   v_show_c(handle 0);                   /* Show Mouse Cursor         */
   rc=fsel_input(pathsp,file,&button);   /* Call GEM item selecter    */
   v_hide_c(handle);                     /* Hide mouse cursor.        */
   v_clrwk(handle);                      /* Clear screen              */
   if (!rc) error(1);                    /* Fatal Error Call 'error'  */
   if (!button) exit(0);                 /* Quit if CANCEL selected.  */
   if (!*file) error(2);                 /* No name entered Call error */
   for (i=0;i<64;i++) filename[i]='\0';  /* Initialise array filename */
   i=0;                                  /* Re zero i after use!      */
   while (i 40)                          /* Now fill filename with data */
   {                                     /* from item selector....    */
      if (pathsp[i]=='*') break;         /* Do until asterisk found.  */
      filename[i]=pathsp[i];             /* Now i th char to filename' */
      ++i;                               /* Increment i               */
   }
   ++i;                                  /* Increment i               */
   strncat(&filename,&file,16);          /* Finally add actual file name. */
                                         /* to filename !!            */
}


pc()
{
   vs_curaddress(handle,3,26);                  /* Position text cursor */
   puts("Word Count Program by R Howorth.");
}


wait_click()
{
   vs_curaddress(handle,25,22);                 /* Position text cursor */
   puts("Click LEFT mouse button to continue.");  /* Prompt user!        */
   evnt_button(1,1,1,&dummy,&dummy,&dummy,&dummy); /* Wait for left click */
}



error(err)
{
   v_hide_c(handle);                     /* Hide mouse                */
   v_clrwk(handle);                      /* Clear screen              */
   vs_curaddress(handle,15,25);          /* Position text cursor      */
   switch(err)
   {
      case 1: puts("Fatal Error! Program stopped ");
              exit(0);
      case 2: puts("No file name entered by user!!");
              break;
      case 3: calc_cntr(3);
              printf("Cannot open file %s. Check Disk!!",filename);
              break;
   }
   wait_click();                         /* Call wait_click'.         */
   main();
}

calc_cntr(n)                             /* Positions text cursor to  */
{                                        /* centre output on screen.  */
   rc=strlen(filename);                  /* rc=number of chars in filename*/
   rc+=cn;                               /* n=length of constant text */
   rc=rc/2;
   vs_curaddress(handle,17,(40-rc));     /* Position text cursor.     */
}

gem_init()
{
   int i;
   short work_in[11] work_out[57];
   for (i=0;i<10;i++) work_in[i]=1;      /* set all defaults to 1     */
   work_in[10]=2;                        /* use raster co-ordinates   */
   appl_init();                          /* open the application      */
   phys_handle=graf_handle(&dummy,&dummy,&dummy,&dummy);
   handle=phys_handle;
   v_opnvwk(work_in,&handle,work_out);   /* sets work area            */
   v_hide_c(handle);                     /* Hide mouse cursor         */
}



words(fp)                                /* Function words            */

FILE *fp;
{
   int in_a_word item,total;             /* declare variable types    */
   total=in_a_word=0;
   while ((item=getc(fp))!=EOF)          /* get character from file   */
   {                                     /* while not EOF             */
      if (in_a_word)                     /* If we were in a word.     */
      {
         if (!isalnum(item))             /* Is this char a space?     */
         {
            ++total;                     /* If so increment total,    */
            in_a_word=0;                 /* and reset in_a_word       */

         }
      }
      else if (isalnum(item))in_a_word=1; /* If we weren't in a word, are */
   }                                     /* we yet? If so set in_a_word */
   return total;                         /* At EOF return to main with */
}                                        /* result.                   */
```

Programming: Spectrum

Slowpro

Michael Rees





Ever played games where the action was just too thick and fast? Are your reflexes slowing down with the passing of the years? Well if this is so then Slowpro is just the utility you require

It uses interrupts to enable the user to slow down programs to any required speed Run the program and enter *Randomize Usr 65120* Then load up the game you wish to play Now pressing *2* and *Return* slows down a program gradually while *1* and *Return* reverses the effect *3* and *Return* restores the program to its original running speed

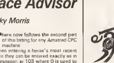
Slowpro will slow down any user of commercial program as long as they don t use interrupts or memory from 65120 upwards

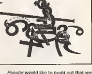
```
  5 CLEAR 65119  LET L-40  FOR 1-6512.
TO 65248 STEP 8  LET T=0  READ TOT
  10 FOR I=F TO F+7  READ A  IF A=999 AN
D F-65248 THEN  PRINT " SLOWPRO NOW LOAD
ED INTO MEMORY  SAVE SLOWPRO CODE 65120
,130    RANDOMIZE USR 65120 TO EXECUTE
        SLOWPRO"  STOP
  15 IF A>255 THEN  PRINT  PRINT "
ERROR IN DATA "  STOP
  20 LET t=t+a  POKE i.a· NEXT i· IF tot
<>t THEN  PRINT  PRINT "     ERROR IN D
ATA LINE ".L  STOP
  30 LET L=L+10  NEXT f
  40 DATA 911 62.9.237.71 237.94.201.0
  50 DATA 1587.0,255 243,245 197 213 229
 205
  60 DATA 1669 123.254 205 206 254.225,2
09.193
  70 DATA 1631 241.251 201.62.191,211,25
5 219
  80 DATA 1339.254 230.1.202 135.254 201
 62
  90 DATA 1619 247 211 255 219 254 230 1
 202
 100 DATA 1682 180,254 62 247 211.255.21
9 254
 110 DATA 1401 230.2.202 193 254.62.247.
211
 120 DATA 1587.255,219.254 230.4 202.169
 254
 130 DATA 886 201.62.0 50.255 255.62.1
 140 DATA 1582,50.254.255.201 58.255.255
.254
 150 DATA 1297 0 202.220 254.61 50.255 2
55
 160 DATA 1700 201.58 255.255 254 255 20
2.220
 170 DATA 1517.254 60 50 255 255.201.245
 197
 180 DATA 1161.237 75.254 255.11.121,176
 32
 190 DATA 945.251,193 241.201.17 0.0.42
 200 DATA 1100.255 255.205 181 3.201 999
```

Programming: Amstrad CPC

Race Advisor

Nicky Morris





There now follows the second part of this listing for any Amstrad CPC machine

When entering a horse's most recent results they can be entered exactly as in a newspaper, ie 103 where 0 is used to represent non-starting, finishing fourth or worse

The method used by this program could certainly be done by hand but would probably take around three hours for just one race meeting

If you would like a copy of the program on cassette plus data for several race courses send £3 25 to 22 Richard Street, Dunstable, Beds LU5 4BH

Popular would like to point out that we accept absolutely no responsibility for any monies lost through the use of Nicky Morris s program

```
1550 IF a$="2" THEN tot(n)=tot(n)+4
1560 IF a$="3" THEN tot(n)=tot(n)+3
1570 IF a$="4" THEN tot(n)=tot(n)+2
1580 b$=MID$(result$(n),2,1)
1590 IF b$="1" THEN tot(n)=tot(n)+4.5
1600 IF b$="2" THEN tot(n)=tot(n)+4
1610 IF b$="3" THEN tot(n)=tot(n)+3
1620 IF b$="4" THEN tot(n)=tot(n)+2
1630 c$=MID$(result$(n),3,1)
1640 IF c$="1" THEN tot(n)=tot(n)+4.5
1650 IF c$="2" THEN tot(n)=tot(n)+4
1660 IF c$="3" THEN tot(n)=tot(n)+3
1670 IF c$="4" THEN tot(n)=tot(n)+2
1680 NEXT
1690 PEN 5:MODE 1:PAPER 0
1700 PRINT:PRINT" What weight are they c
arrying ?"
1710 FOR n=1 TO runners:PRINT:PEN 5:PRIN
T n;a$(n);
1720 PEN 2:LINE INPUT" = ";weight$(n)
1730 weight(n)=VAL(weight$(n))
1740 NEXT n
1750 CLS:PRINT
1760 PEN 5:PRINT" What ground do they pr
efer?"
1770 PEN 2
1780 FOR n=1 TO runners:PRINT:PRINT n;a$
(n);"=";
1790 PEN 5:LINE INPUT ground$(n):PEN 2
1800 IF ground$(n)=grd$ THEN tot(n)=tot(
n)+1 ELSE tot(n)=tot(n)-1
1810 NEXT n:CLS
1820 PEN 5:PRINT:PRINT" Enter jockeys:"
1830 PRINT:FOR n=1 TO runners
1840 PEN 2:PRINT n;a$(n);"s=";:PEN 5
1850 LINE INPUT jockey$(n):PRINT:NEXT
1860 IF jock$(1)=jockey$(n) THEN TOT(N)=
TOT(N)+5
1870 IF jock$(2)=jockey$(n) THEN TOT(N)=
TOT(N)+4.5
1880 IF jock$(3)=jockey$(n) THEN TOT(N)=
TOT(N)+4
1890 IF jock$(4)=jockey$(n) THEN TOT(N)=
TOT(N)+3.5
1900 IF jock$(5)=jockey$(n) THEN TOT(N)=
TOT(N)+3
1910 IF jock$(6)=jockey$(n) THEN TOT(N)=
TOT(N)+2.5
1920 IF jock$(7)=jockey$(n) THEN TOT(N)=
TOT(N)+2.25
1930 IF jock$(8)=jockey$(n) THEN TOT(N)=
TOT(N)+2
1940 IF jock$(9)=jockey$(n) THEN TOT(N)=
TOT(N)+1.75
1950 IF jock$(10)=jockey$(n) THEN TOT(N)
=TOT(N)+1.5 ELSE tot(n)=tot(n)+1.25
1960
1970 CLS
1980 PEN 5:PRINT:PRINT" Enter trainers:"
1990 PRINT:FOR n=1 TO runners:PEN 2:PRIN
T n;a$(n);" s-";
2000 PEN 5:LINE INPUT trainer$(n):PRINT
2010 IF TRAIN$(1)=trainer$(n) THEN TOT(N
)=TOT(N)+5
2020 IF TRAIN$(2)=trainer$(n) THEN TOT(N
)=TOT(N)+4 5
2030 IF TRAN$(3)=trainer$(n) THEN TOT(N
)=TOT(N)+4
2040 IF TRAIN$(4)=trainer$(n) THEN TOT(N
)=TOT(N)+3.5
2050 IF TRAIN$(5)=trainer$(n) THEN TOT(N
)=TOT(N)+3
2060 IF TRAIN$(6)=trainer$(n) THEN TOT(N
)=TOT(N)+2.5
2070 IF TRAIN$(7)=trainer$(n) THEN TOT(N
)=TOT(N)+2.25
2080 IF TRAIN$(8)=trainer$(n) THEN TOT(N
)=TOT(N)+2
2090 IF TRAIN$(9)=trainer$(n) THEN TOT(N
)=TOT(N)+1.75
2100 IF TRAIN$(10)=trainer$(n) THEN TOT(
N)=TOT(N)+1.5 ELSE tot(n)=tot(n)+1.25
2110 NEXT N
2120 PEN 2
2130 MODE 1:FOR n=1 TO runners:PRINT
2140 PRINT" Enter ";A$(N);"s age: ";:PE
N 5:LINE INPUT AGE$(N)
2150 PEN 2
2160 AGE(N)=VAL(AGE$(N))
2170 IF WEIGHT(N)>9.8 AND AGE(N)>7 THEN
2180 ELSE 2190
2180 IF GOING$="SOFT" OR GOING$="GOOD TO
 SOFT" OR GOING$="HEAVY" THEN TOT(N)=TOT
(N)-2
2190 IF WEIGHT(N)<9.8 AND AGE(N)<7 THEN
TOT(N)=TOT(N)+1 ELSE TOT(N)=TOT(N)+1
2200 IF TD>1.2 AND WEIGHT(N)>9.8 OR AGE(
N)>7 THEN TOT(N)=TOT(N)-1
2210 IF TD<0.9 AND WEIGHT(N)>9.8 OR AGE(
N)>7 THEN TOT(N)=TOT(N)-0.75 ELSE TOT(N)
=TOT(N)+1
2220 NEXT N
2230 FOR N=RUNNERS TO RUNNERS-3 STEP-1
2240 IF DRA$="HIGH" THEN TOT(N)=TOT(N)+1
:NEXT N
2250 FOR N=1 TO 3:IF DRA$="LOW" THEN TOT
(N)=TOT(N)+1:NEXT N
2260 FOR N=1 TO RUNNERS:TOTAL(N)=TOTAL(N
)+TOT(N)+form(n):NEXT n
2270 CLS:INK 0,0:BORDER 0:PEN 2
2280 PRINT:PRINT"  RESULTS:":PRINT "----
------":PRINT
2290 FOR N=1 TO RUNNERS:PRINT N;"  ";A$(N
);:b=23-LEN(A$(N))
2300 PRINT STRING$(B,CHR$(32));INT(TOTAL
(N)):NEXT N
2310 PRINT:PEN 5
2320 PRINT" Do you wish results to be re
printed ?"
2330 a$=UPPER$(INKEY$):IF a$="" THEN 233
0
2340 IF A$="Y" THEN 2270
2350 FOR n=1 TO runners:a$(n)="":form$(n
)="":fore(n)=0
2360 RESULT(n)=0
2370 TOT(N)=0:TOTAL(n)=0:RESULT$(n)="":g
round$(n)="":weight(n)=0
2380 age(n)=0:age$(n)="":weight$(n)="":N
EXT n
2390 GOTO 80
3000 GOTO 390
3010 MODE 1:PAPER 0:PEN 7
```


Disc Help

Gary Mayhew

Part two of Disc Help follows along with the instructions for the printer menu

Line feed sends a carriage return to the printer

Quit returns you to the main menu

Send Chr$ is used to send control codes

Form feed ejects 66 lines

Print sends an 80-character string to the printer

Test is used to test double width, inverse etc

After selecting an option on either menu you may be prompted to enter a filename or string. On some occasions, after the program has checked for error you should press the space bar

continued on page 26 ▶

```
1370 GETKE$:IFKE$<>" "THEN1370
1375 POKE255,1:SYS49152
1380 CLOSE15:CLOSE1:RETURN
1390 CLOSE1:PRINT:PRINTTAB(6)"■ INSERT SAVE DISK, HIT SPACE"
1400 GETKE$:IFKE$<>" "THEN1400
1410 PRINT:PRINTTAB(6)"■ WRITING : ";N$;
1420 N=LEN(N$)
1430 IFN<18THENPRINT"■ ";:N=N+1:GOTO1430
1440 PRINT#15,"I0"
1450 OPEN 1,8,2,N$+",P,W"
1460 FOR K=9216 TO J
1470 PRINT#1,CHR$(PEEK(K));
1480 NEXT
1490 CLOSE1:CLOSE15:PRINT:PRINTTAB(6)"■ COPY COMPLETE. HIT SPACE"
1500 GETKE$:IFKE$<>" "THEN1500
1510 POKE255,1:SYS49152
1520 RETURN
1530 REM BLOCKS FREE
1540 POKE255,0:SYS49152
1550 X=10:Y=10:WX=20:WY=1:CO=4:GOSUB 270
1560 PRINT"■";TAB(11);"■BLOCKS FREE : ";
1570 OPEN 100,8,0,"$:U-U"
1580 FORJ=1TO35:GET#100,X$:NEXT
1590 GET#100,Y$:CLOSE100
1600 BF=ASC(X$+CHR$(0))+256*ASC(Y$+CHR$(0))
1610 PRINT"■";BF
1620 GETKE$:IFKE$<>" "THEN1620
1630 POKE255,1:SYS49152
1640 RETURN
1650 REM PRINTER
1660 OPEN 4,4
1670 X=21:Y=8:WX=16:WY=6:CO=2:GOSUB 270
1680 PRINT"■■■■■■■";
1690 PRINTTAB(23);"■LINE FEED"
1700 PRINTTAB(23);"■FORM FEED"
1710 PRINTTAB(23);"■SEND CHR$"
1720 PRINTTAB(23);"■PRINT STRING"
1730 PRINTTAB(23);"■TEST PRINTER"
1740 PRINTTAB(23);"■QUIT PRINTER"
1750 GETKE$:IFKE$=""THEN1750
1760 IFKE$="L"THENPRINT#4,""
1770 IFKE$="F"THENFORL=1TO66:PRINT#4,"":NEXT
1780 IFKE$="S"THEN GOSUB1870
1790 IFKE$="P"THEN GOSUB1830
1800 IFKE$="T"THEN GOSUB1920
1810 IFKE$="Q"THENCLOSE4:PRINT"■";:GOTO160
1820 GOTO 1750
1830 POKE255,0:SYS49152:PRINT"■";
1840 X=7:Y=3:WX=24:WY=3:CO=3:GOSUB270
1850 PRINT"■■";TAB(8)"■ENTER TEXT, PRESS RETURN■■■";CHR$(13):ML=79:GOSUB2020
1860 PRINT#4,N$:POKE255,1:SYS49152:RETURN
1870 POKE255,0:SYS49152:PRINT"■";
1880 X=7:Y=3:WX=24:WY=3:CO=5:GOSUB270
1890 PRINT"■■";TAB(10)"■CHR$ NUMBER 0-255 ■■■";CHR$(13):ML=3:GOSUB2020
1900 V=VAL(N$):IFV<0ORV>255THENPRINT"■";:GOTO1880
1910 PRINT#4,CHR$(V);:POKE255,1:SYS49152:RETURN
1920 REM TEST
1930 PRINT#4,CHR$(15);"TESTING NORMAL PRINT.";CHR$(13)
1940 PRINT#4,CHR$(14);"TESTING DOUBLE WIDTH.";CHR$(13)
1950 PRINT#4,CHR$(15);CHR$(18);"TESTING REVERSE TEXT";CHR$(1
```

```
1960 PRINT#4,CHR$(18);CHR$(14);'TESTING REVERSE & DOUBLE TEXT.';CHR$(1
1970 PRINT#4,CHR$(15);CHR$(17)"TESTING CURSOR DOWN MODE.";CHR$(17);CHR$(1
1980 PRINT#4,CHR$(15);CHR$(145)'TEXT COMPLETE ...";CHR$(13)
1990 PRINT#4,'"
2000 RETURN
2010 REM INPUT
2020 N$=""
2030 PRINT"
2040 GETZ$:IFZ$=""THEN2030
2050 Z=ASC(Z$):IFZ>95ORZ=34THEN2040
2060 ZL=LEN(N$):IFZL MLTHEN2080
2070 IFZ>31THENN$=N$+Z$:PRINTZ$;:GOTO2030
2080 IFZ=13ANDZLTHENPRINT" ";:RETURN
2090 IFZ=20ANDZLTHENN$=LEFT$(N$,ZL-1):PRINT:"
2100 GOTO2030
2110 REM M/C SCREEN SAVE
2120 FORL=0TO95:READDA:POKE49152+L,DA
2130 T=T+DA:NEXT:IFT<>16330THENPRINT'DATA ERROR":END
2140 RETURN
2150 DATA 169,0,133,251,133,253,169,4,133,252,169,216,133,254,169,0
2160 DATA 133,172,133,174,169,160,133,173,169,164,133,175,165,255,208
2170 DATA 32,198,1,160,0,177,251,145,172,177,253,145,174,200,208,245
2180 DATA 230,252,230,254,230,173,230,175,165,252,201,8,208,221,250
2190 DATA 1,96,198,1,160,0,177,172,145,251,177,174,145,253,200,208,245
2200 DATA 230,252,230,254,230,173,230,175,165,252,201,8,208,221,250
2210 DATA 1,96

READY.
```

Italics on Spectrum

by Tim Lynes

The following Spectrum program creates an italic character set starting at 64000. Change the value at line 45 to 39 to create a left sloping set. To use the new set enter *Poke 23607 2493*. To allow the set to be copied to another location do the following:
*Poke 30004 v-256*Int(v/256)*
Poke 30005,Int(v/256)
*Poke 30015 v 256*Int(v/256)*
Poke 30016,Int(v/256)
Randomize Usr 30000
where v is the starting address.

To use the set starting at v,
*Poke 23606 v-256*Int(v/256) Poke 23607,Int(v/256)-1*

To save the new character set enter Save "Itals" Code 64000 768

```
S  CLEAR 29999
10  FOR  I=30000  TO  30047 READ   A·POKE
I,A NEXT I
20 RANDOMIZE USR 30000
30    POKE    23607.249 PRINT     "ITALIC
CHARACTERS !!"
40 DATA 33,  0.  61, 17, 0, 2S0, 1, 0, 3,
237.  176, 1, 0, 3, 33, 0. 2S0, 17, S, 0,
126, 203
S0 DATA 47. 119, 27. 62, 0
60 DATA 187,  40, 7. 3S. 120, 177, 11, 32
240, 201, 3S, 3S, 3S, 3S, 11, 11, 11, 11,
19S. 6S.117
```

Hires Dump

by R Clapp

The following program for not quite forgotten Oric 1/Atmos computers will dump a hires picture to a Brother HR5 printer in about five minutes only.

The printing will be slightly compressed along the x-axis compared with the screen because the pin spacing is smaller then the carriage pitch (1/72). Altering the line feed value in line 600 to 7 or 8 will get round this but will also break up the horizontal lines.

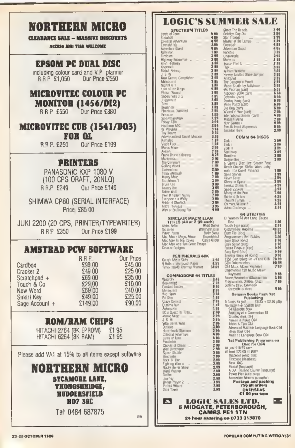
```
500 S=48920 E=4096
510 FORC=1TO40
520 LPRINTCHR$(27),"K";CHR$(200),CHR$(0);
530 FORL=S TO E STEP-40
540 B=PEEK(L)
550 IFB>63 THENB=8-64
560 LPRINTCHR$(8);
570 NEXTL
580 S=S+1 E=E+1
590 LPRINTCHR$(27);"A";CHR$(6),
600 LPRINTCHR$(13)
610 NEXT C
```

Shadow Ram Access

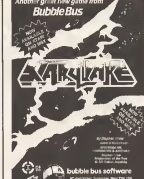
by A W R Crawford

If you've bought an Atari 130XE or upgraded the old 800XL then you may be wondering how to gain access to the additional banked memory that this machine has. Well, this program allows you access to the extra Ram. Type in and run the program, instructions will be printed on screen.

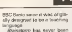
```
>
   10DIM MOVE$(70) RESTORE FOR L=1 TO 70
·READ D:MOVE$(L.L)=CHR$(D) NEXT L
   20PRINT CHR$(125) POSITION 2,4 FORL=0
 TO 80 STEP 10 PRINT L NEXT L
   30POKE 766.2 PRINT "10 COM MOVE$(70)·
MOVE$=",CHR$(34),MOVE$,CHR$(34)
   40PRINT"20 POKE 842.12 POKE 766,0 PRI
NT CHR$(125) LIST END" PRINT "GOTO20"
   50POSITION 2,0 POKE 842,13.STOP
   60DATA 104,104.133.204.104.133.203,10
4,133,206,104,133.205,104,104,170.169.0.
141,14.212.173,1.211,41,254.9.2
   70DATA 141,1.211,41,254.9,2.141.1.211
,160,255,177.203.145,205,136,208,249.230
,204.230 206,202.208,240,173,1.211
   80DATA 9,1.41,253,141.1,211.169,192.1
41 14.212.96
```



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With Kenn Garroch

Multiple copies

Chris Ladds of Hawick, in Roxburghshire writes

Q **Do you know if anyone has made word processing software for the PCW8256 that produces multiple copies of documents? I use my machine to produce worksheets for pupils. Amsoft says there is no facility for doing this within *LocoScript*.**

Do you know whether anyone has produced another version of Basic that will run on this machine? I'm not experienced in programming, and I would like something that uses procedures as BBC Basic does.

Has *Popular* reviewed *Brainstorm* or any similar ideas processor? It's mentioned in your July 10 issue but I haven't seen it since.

A The only word processor that I know will produce multiple copies is *Wordstar*, but this doesn't mean that there aren't others. Most reasonable processors will cope with churning out as many copies as you like.

I remember that there was once a Z80-CP/M version of BBC Basic available for the Wren and also running on the Z80 second processor for the BBC. However, I don't know whether this is still available or who produced it. Maybe they will read this and tell me so that I can tell you?

If you want to learn structured programming, you could do worse than use Pascal (available from DR at £50) as this is even better than BBC Basic since it was originally designed to be a teaching language.

Brainstorm has never been reviewed in PCW but we hope to cover it in a future issue.

Power struggles

M Sykes of Crewe, in Cheshire writes

Q **I have a problem with my Commodore 64. When I switch it on, the power light flashes brightly, then dims and slowly comes bright again. All I get on my monitor is a blank screen. I do, however, have a reset switch which if then pressed causes the computer to boot up. After an hour or so, the screen starts doing funny things and the power light dims.**

When I try switching on and off, the power light never gets to its full brightness and even the reset switch doesn't work. If I let it cool down, the machine will work but only by the reset method mentioned above.

Could you tell me what is wrong and what, if anything, can be done to fix it?

A This sounds as though you have power supply problems. If your power supply is getting very warm it could well be broken and not able to supply enough power to boot the system. The reset switch works by taking the reset line of the cpu low causing a cold boot. If there is nearly enough power then this will work. After a while though, the power supply gets hot and the voltage it produces drops below the critical level.

The answer is to get your computer looked at by one of the many repair companies now advertising in the various computer mags (see the classified section of *Popular*). What they will probably do is replace your power supply (approx £30) and give the rest of the system the once over, returning it to you as good as new.

Amstrad rumours

Mark Mamone, of Paston Peterborough writes

Q **I heard recently that due to the release of the Spectrum Plus 2, the Amstrad 6128 will start to take over from the other Amstrad models.**

I have a CPC 464 with disc drive and wondered that if I obtained a 64K Ram pack, would I be able to run 6128 software. If not, how could I?

A As far as I know, the software houses currently produce all their Amstrad software to run on the 464 as the basic Amstrad machine since it will then run on the 664 and 6128 as well. The Spectrum Plus two is reputed to be fully compatible with all Spectrum software so the chances are that software companies will continue to publish for both formats.

The software you will want to run falls into two categories, that running under CP/M and that running under Amsdos. With the former, you should have no problem fitting a Ram pack since this should increase the TPA (Transient Program Area) available to CP/M allowing the 6128 CP/M system to be loaded.

With Amsdos I am not sure whether Amstrad has changed the operating system on the 6128. The chances are that it has so fitting the extra memory will not help. However, as I mentioned above there is no reason why the software houses should change from their policy of producing programs for the 464 as a base machine.

Screen to screen

Edward O'Toole of Dublin writes

Q **I own an Amstrad 6128 with a colour monitor. Is there any way I could connect my Commodore 64 to my Amstrad monitor?**

A Sorry, but I'm afraid you can't. The Amstrad uses an RGB output, the Commodore 64 a composite signal, and the two are incompatible.

Enter the Dragon

Rob Baxter, of Whalley Range, Manchester, writes

Q **I recently bought a second-hand Dragon 32 and as I do not own a TV, was hoping to connect it to one of my existing computer monitors.**

But so far I have had no success. I have been unable to find a suitable cable and have tried to make one up myself but I cannot find details of the pin layout.

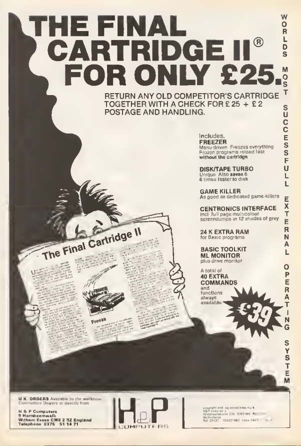
My monitors are the standard Amstrad CPC model and a Ferguson green screen monitor. My main worry is the risk of damaging my monitors. Is this possible?

A The possibility of damage is always present when messing around with electrical equipment, however the risks in this case are very slight.

Although the Dragon manual claims RGB output, this was never implemented. The video output is composite video so you're in with a chance on your Ferguson green screen.

Only three pins are used on the Dragon video connector: pin one is sound, pin two is ground and pin three is composite video. If you can match these up you should get a picture although sound will depend on whether your monitor has a built-in loud speaker (many don't).

Is there anything about your computer you don't understand, and which everyone else seems to take for granted? Whatever your problem *Peek* it to Kenn Garroch and every week he will *Poke* back as many answers as he can. The address is *Peek & Poke*, PCW, 12-13 Little Newport Street, London WC2R 3LD



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Absolute beginner, intermediate musician or confirmed expert?



Mark Jenkins peruses a selection of readers' tapes

The main problem in writing a column of this sort is knowing where to pitch it – at the absolute beginner the intermediate musician or the confirmed expert? The real distinctions as far as equipment is concerned come in three stages as follows

1) The beginner with a standard micro and enough interest in music to buy a software package to use the micro s built in sound chip

Examples of products aimed at this level of interest are Reinbird s *Advanced Music System* on the C64 BBC or Amstrad the Rittor packages for the MSX micros which we looked at a few weeks back, and many more pieces of software in the £10—£30 range

If you re pleased with the bleeps and bloops your computer can create, but would like to have them louder/faster/longer/more powerful, the intermediate stage of interest is as follows,

2) The amateur musician with enough cash and interest to want to expand the micro s hardware with a real music keyboard, an additional voice module, a 'real sound sampler or other accesasory ranging from perhaps £30–£200

Some of the most exciting recent micro products lie in this bracket – the *Ram Music Machine* towards the bottom end (£49 95) offers sampling, echo drum machine facilities and a Midi sequencer for the Spectrum Spectrum 128 Spectrum Plus and Spectrum Plus 2 That s quite an astonishing achievement, but it can be bettered in terms of quality by products for individual purposes from Cheetah Currah Syndromic Music (the *Tron Digidrum III* is a particularly outstanding micro drum machine), Commodore (with the *FM Sound Expander*) and many others

After this stage you'll probably be hooked on the music bug and will begin to find your micro a little limited as an instrument even with additional voices, sampling capability and so on But don't despair because even basic micros (Commodore, MSX BBC and more recently Amstrad for example) can have a place in the world of fully professional music – stage three

3) For all practical purposes, you ve entered the world of professional music once you link up a micro to a series of instruments using Midi, the almost universal synthesiser interface

Midi synthesisers start at around £250 now (Casio s CZ-101 remains the best bargain) and every modern synthesiser from the Casio to the £55 000 Series III Fairlight is Midi-compatible (many older ones can benefit from a Midi to analog interface too)

If you don't believe that a humble micro can have any part in making chart hits you ll be pleased to hear that Blancmange Vince Clarke and A Ha all use BBC micros with a package called *UMI 2B* that continental star Michael Cretua swears by *C Lab* on the Commodore 64 and that Dire Straits and Marillion both use the Atari 520ST with the Steinberg *Pro-24* software

So from making bleeping noises with an internal sound chip your micro can take you all the way up to professional studio level with your expenditure tailored to match your interest in music

What we d like to know is – where would you place yourself? Are you just interested in music as an alternative to playing endless shoot 'em up games, or do you feel that your interest will develop? Have you started to record music from your micro and play it to anyone else (and would a few hints on recording techniques be appreciated)? Have you forked out for any kind of hardware expansion yet and if so, have you experienced any compatibility problems, and do you intend to move on to Midi interfacing?

Answers to a few of these questions help us tailor the music column to suit your specific needs – and so far, we ve had a good selection of tapes discs and data cassettes sent in which confirm interest at all three of the stages we ve mentioned

For instance, Andrew Wilson of Edinburgh has sent in a very sophisticated tape composed with a BBC based UMI 2B system and a selection of Midi synthesisers and drum machines The sound is very full particularly in the passages with sampled pianos and fast sequenced arpeggios backing the slower rhythms played on marimba or flute sounds

Each piece is four or five minutes long, mostly quite up-tempo – ideal for "test card music" (what s called library music in the business and often paying very well) or for documentary films Given enough synthesisers, micro control means that you can record a complete piece (as long as you don t want to do vocals or guitars for instance) straight on to a master tape without needing an expensive multitrack tape machine at all

At the other end of the scale, Peter Bayes from North Yorks has been programming music for the MSX micros and has sent in a listing for a version of *Memory* from the show *Cats* It takes up 4 2k and is about 90 lines in length – and Peter now plans to get hold of the Yamaha SFG 05 FM Tone Module to improve his micro s sounds If you re interested in swapping listings you can contact Peter at 6 Pinfold House, Mount Crescent Malton N Yorks YO17 0JO

Jim Veitch of Berwickshire has written in with a few earth-shaking questions – how much is a Yamaha DX7 and is it value for money? (about £900 second-hand – yes for keyboard players, probably no for programmers) is a Yamaha PSS460 electronic keyboard a good idea for starters and does it connect to a C64/128? (Yes, but no) what is the best beginner s buy for the type C64? (perhaps the Commodore *Sound Expander* with or without keyboard, the Tron *Digidrum III* for sampled drums, and the Steinberg *Pro-16* composer once you ve got into Midi synthesisers), what's a Midi and what does it do? (Ha! you need to get hold of *Electronic Music On The Commodore 64* M Jenkins (who), Sunshine Books, £6 95) do you know of any programs which will help me write machine code music? (see Ian Waugh s *Commodore 64 Music* for Basic programs, and Chapter Five of England and Lawrence's *Machine Code Graphics and Sound* for simple machine code music routines both from Sunshine at £6 95 each) Micro music buffs in Scotland may like to contact Jim to swap ideas – he s at Cross Lea, Coldingham Berwickshire TD14 5NS

CORRECTION – Prices of the Rainbird Amstrad Music System reviewed in our recent music supplement are £19 95 and £29 95

If you have any queries or tips for this column, please write to Mark Jenkins at *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP Mark would also welcome examples of your own music on audio or program tape, or disc



Roll up for the magical musical modem

David Wallin sings about Musictel, now bigger and better than ever

I expect many of you will remember the small London Bulletin Board, Musictel, insignificant amongst the 200 odd other boards in the country Not any more, Musictel is the name of a company which part-runs many boards The table at the bottom shows the boards that are presently run as part of the Musictel network The boss of the entire network, and managing director is James Eckhardt the sysop of the original board Musictel

Musictel Boards and Music

As the names suggest Musictel boards specialise in music features This does not mean that you have to be a composer or concert pianist to understand what you see when you log on The boards are similar to any other board, but they have slight oddities and very musical Sigs and downloads For example Musictel itself has record charts and Musictel Plus has a what s on on TV section On Musictel, the Sigs include hi-fi, the Music 500 classical music and pop

All the Musictel boards have downloads of music files for the BBC I am pretty certain that James is working on having files for other computers available soon These downloads are not the pathetic tunes of cheap games or type-in listings, but proper digitised melodies

A sound digitiser or sound sampler basically listens to a sound, noise or piece of music and converts it into computer data The reproductions are as good as if you had recorded the music on to a high quality cassette In fact they can be better as tapes deteriorate and pick up static and dust

Digitising devices don t stop at music either, since video digitisers digitise pictures, taken from a video camera or video recorder The pictures created, if displayed at a high enough resolutions are of a very high quality

Also speech digitising is possible To listen to some digitised speech (again you need a BBC as the files are for the BBC only), log on to Marctel BB the only BB I know of which has digitised speech files available for download

Digitised speech is incredible it sounds just like the real thing When William Holmes (Sysop Musictel Plus) played me a digitised copy of the speech at the start of *Knight Rider* over the phone, I had difficulty believing that it was not just a cassette recording of it

Digitised sound does use up lots of your BBS s K, eight seconds of speech taking up approximately 20K, and a piece of music, up to 30K The music is of a very high quality though and definitely worth downloading if you re a BBC owner

One thing to point out a digitised tune/picture/bit of speech can be played back on an ordinary BBC the digitizer is *not* required for playback

Musictel Plus claims William Holmes, will be unusual, with features previously unseen on bulletin boards and he won t say any more!

To find out about the Plus section, you'll have to log on yourself when Plus goes on-line which should be very soon There are plans for some sort of multi access system to be working within six months

Musictel 500 specialises in the Music 500 add-on for the BBC, with downloads which require the Music 500 unit to be present for them to run There will also be information on and for the Music 5000 upgrade unit I believe this is the newest UK-based Musictel board and I d be grateful to hear from anyone with more information

Egypt is the Musictel network's latest target A board is due to open up there within a couple of weeks The number is as yet unknown but I ll let you know it as soon as I can, for anyone who wants to knock up some *really* long distance calls

If you re wondering why there's no Musictel 3, then I ll explain When William Holmes was given the option of joining the Musictel network as Musictel 3 he decided that he preferred the name of Musictel Plus

I ll bring you updates on Musictel when they occur As soon as Musictel Egypt is on-line I'll let you know and give you details on how to dial direct to Egypt and what it will cost

Musictel boards are designed for advertising purposes Companies can have an advert on all the boards, Prestel, Teletel in France, Musictel Egypt (when it opens) and the Source in the USA for just £50 a week

This will enable all the Musictel boards to be upgraded (ie, run on Winchesters, faster computers become multi-user, etc)

This does not mean that when you log on you will see screens and screens of adverts for electrical computer hardware and software companies and the like, before you even enter your name Companies wanting more information on advertising can get it by logging on to Musictel or dialling 01-S81 6311 for their publicity agents.

The Musictel Soards (more bosrds are currently being sat up)

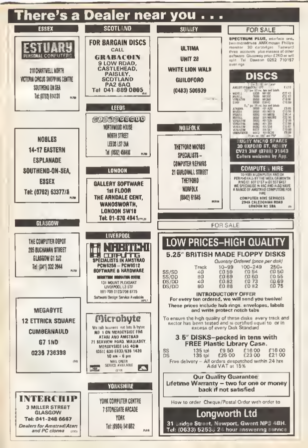
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New Releases

John Cook looks through this week's new arrivals

Pick of the week

Fantastic adventure

Program *Thanatos* **Type** Arcade/Adventure **Micro** Spectrum **Price** £9 95 **Supplier** Durell Computers, Castle Lodge, Castle Green, Taunton, Somerset TA1 4AB

Fantasy arcade adventure are a bit old hat – generally you are Head Pixie and must fight against the Evil One or collect the Lost Amulet of Therg, then go down to the tobacconist's and collect 20 Rothmans, etc Boring So what about this?

You play the part of a huge dragon, flapping your way around a fantasy world, burning the peasants dropping large stones on their heads storming castles eating witches, avoiding sea serpents Doesn't that sound better? If you agree then *Thanatos* may well be a game to suit your taste

Your dragon character is a huge green figure taking up about one third the length of the display and is wonderfully animated Your actual task is to rescue a sorceress from a castle – then take her across the sea to find her spell book, and then finally on to a third castle in which she can weave

Amstrad CPC

Program *Trap Door* **Type** Arcade/Strategy **Micro** Amstrad CPC **Price** £7 95 **Supplier** Piranha, 4 Little Essex Street, London WC2R 3LF

Program *Camelot Warriors* **Type** Arcade **Micro** Amstrad CPC **Price** £8 95 (tape) £14 95 (disc) **Supplier** Ariolasoft 68 Long Acre Covent Garden London WC2E 9JH

Program *Firelord* **Type** Arcade **Micro** Amstrad CPC **Price** £8 95 (tape) £14 95 (disc) **Supplier** Hewson, Hewson House 56b Milton Trading Estate Milton, Abingdon Oxon OX14 4RX

Steve Crow's first after his defection from Bubble Bus, this is first rate arcade adventure – if you're in the market for that kind of thing 500-odd screens to explore – there's certainly plenty to do, although you might think it looks a bit dated

Program *Popeye* **Type** Arcade **Micro** Amstrad CPC **Price** £7 95 **Supplier** Piranha, 4 Little Essex Street, London WC2R 3LF

Program *Infiltrator* **Type** Arcade **Micro** Amstrad CPC **Price** £9 99 (tape) £14 99 (disc) **Supplier** US Gold Unit 2/3 Holford Way Holford Birmingham B6 7AX

Program *Beach Head II* **Type** Arcade **Micro** Amstrad CPC **Price** £9 95 (tape) £14 95 (disc) **Supplier** US Gold, Unit 2/3, Holford Way, Holford, Birmingham B6 7AX

Program *Frost Byte* **Type** Arcade **Micro** Amstrad CPC **Price** £8 95 (tape) £13 95 (disc) **Supplier** Mikro Gen Unit 15 Western Centre, Bracknell Berks

Program *Computer Hits 3* **Type** Compilation **Micro** Amstrad CPC **Price** £9 95 **Supplier** Beau Jolly, 29a Bell Street, Reigate, Surrey RH2 7AD

Another bunch of games from Beau-Jolly, the K Tel of the computer games industry There is some good stuff here – *Cauldron* from Palace, *Dynamite Dan* from Mirrorsoft *Herbert's Dummy Run* from Mikro Gen Ten in all, if you've just bought yourself an Amstrad and need a few games, buy it

Amstrad PCW

Program *Documentor* **Type** Application **Micro** Amstrad PCW **Price** Software + Manual £45 95 Software + Manual + Mouse £99 95 **Supplier** Python Microsystems, Unit 9, The Maltings, High Street, Burwell Newmarket, Cambs

Atari

Program *Vietnam* **Type** Strategy **Micro** Atari XE/XL **Price** £14 95 (disc only) **Supplier** US Gold, Unit 2/3, Holford Way, Holford, Birmingham B6 7AX

Program *Sun Star* **Type** Arcade **Micro** Atari XE/XL **Price** £9 95 (tape) £14 95 (disc) **Supplier** CRL 9 Kings Yard Carpenter's Road, London E15 2HD

Off-beat arcade action that seems original enough but will remind you of several things – *Ball Blazer* included However the fact that one member of staff had to be dragged away from the machine at the end of the day must count for something

Atari ST

Program *Leaderboard Tournament* **Type** Simulation **Micro** Atari ST **Price** £24 95 **Supplier** US Gold, Unit 2/3 Holford Way, Holford, Birmingham B6 7AX

Program *Red Alert* **Type** Arcade **Micro** Atari ST **Price** £19 95 **Supplier** Antic via Silica Shop 1–4 The Mews, Hatherley Road, Sidcup Kent DA14 4DX

Program *Mean 18* **Type** Simulation **Micro** Atari ST **Price** £39 95 **Supplier** Accolade, via Silica Shop 1–4 The Mews Hatherley Road, Sidcup Kent DA14 4DX

Nice try but the game's speed and poor graphics make this way under par compared to *Leaderboard* It does have the advantage of simulating real courses and plays quite a good game but what a lot of money

Program *Rogue* **Type** Strategy **Micro** Atari ST **Price** £24 95 **Supplier** Epyx, via Silica Shop 1–4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX

Program *Psion Chess* **Type** Strategy **Micro** Atari ST **Price** £24 95 **Supplier** Psion, Psion House Harcourt Street, London W1H 1DT

Program *Easy Record* **Type** Utility **Micro** Atari ST **Price** £39 95 **Supplier** Microdeal PO Box 68, St Austell, Cornwall PL25 4YB

BBC/Electron

Program *The Last of the Free* **Type** Arcade/Adventure **Micro** BBC B/Electron **Price** £7 95 **Supplier** Audiogenic, 12 Chiltern Enterprise Centre, Station Road Theale, Berks RG7 4AA

Program *Thunderstruck* **Type** Arcade/Adventure **Micro** BBC B/Electron **Price** £7 95 **Supplier** Audiogenic, 12 Chiltern Enterprise Centre, Station Road, Theale Berks RG7 4AA

from Durell

her magic

But you must be a Dragon with a heart condition or something, as you have to keep an eye on the old ticker, displayed in the bottom left of the screen plus looking out for the amount of high octane gob you have left (shown bottom right)

Thanatos is fun I'm not 100% sure that it would keep you hooked for weeks on end, but for an original title that is sure to delight, try it

Commodore 64

Program *Hopeless* **Type** Arcade **Micro** Commodore 64 **Price** £9 95 **Supplier** Ariolasoft 68 Long Acre Covent Garden London WC2E 9JH

Program *Superstar Ping Pong* **Type** Arcade **Micro** Commodore 64 **Price** £9 99 (tape) £14 99 (disc) **Supplier** US Gold, Unit 273 Holford Way, Holford Birmingham B6 7AX

Program *Leader Board Tournament* **Type** Simulation **Micro** Commodore 64 **Price** £6 99 (disc) **Supplier** US Gold, Unit 273 Holford Way, Holford, Birmingham B6 7AX

The new disc – yippee! The excitement! The build up! The loading! The cup of tea! The disappointment!

We had all been hoping for some extra features – rough, bunkers, real courses – but instead just four more of the same Mind you, they re amazingly difficult – you ve got 19 to beat on hole ten, course four If you re getting too expert with the original, well worth a try

Program *Infiltrator* **Type** Arcade **Micro** Commodore 64 **Price** £9 99 (tape) £14 99 (disc) **Supplier** US Gold, Unit 273 Holford Way, Holford, Birmingham B6 7AX

Program *Super Huey II* **Type** Simulation **Micro** Commodore 64 **Price** £9 99 (tape) £14 99 (disc) **Supplier** US Gold Unit 273 Holford Way Holford Birmingham B6 7AX

Program *Ace of Aces* **Type** Arcade **Micro** Commodore 64 **Price** £9 99 (tape) £14 99 (disc) **Supplier** US Gold, Unit 273 Holford Way, Holford, Birmingham B6 7AX

Program *Vietnam* **Type** Strategy **Micro** Commodore 64 **Price** £9 95 (tape) £14 95 (disc) **Supplier** US Gold Unit 273 Holford Way Holford Birmingham B6 7AX

Program *Uchi Mata* **Type** Arcade **Micro** Commodore 64 **Price** £9 95 (tape) £12 95 (disc) **Supplier** Martech Martech House Bay Terrace, Pevensey Bay, East Sussex BN23 6EE

The world s first Judo simulator? Still great animation and some well thought out game designs make this an up-market alternative to *Rock and Wrestle*

Program *Red Max* **Type** Arcade **Micro** Commodore 64 **Price** £1 99 **Supplier** Code Masters

The Darling's follow-up to *The Last V8* – slick but you might find it a bit similar

Program *Trailblazer* **Type** Arcade **Micro** Commodore 64 **Price** £9 95 (tape) £14 95 (disc) **Supplier** Gremlin Graphics Alpha House, 10 Carver Street, Sheffield S1 4FS

Program *Marble Madness* **Type** Arcade **Micro** Commodore 64 **Price** £9 95 (tape) £14 95 (disc) **Supplier** Ariolasoft 68 Long Acre, Covent Garden, London WC2E 9JH

Not quite up to the Amiga version but authentic enough to satisfy most – and you've got a simultaneous two-player version

QL

Program *Ambition* **Type** Strategy **Micro** QL **Price** £29 95 **Supplier** Care Electronics, 800 St Albans Road, Watford Herts

To quote the TV series that made the legwarmer industry what it is today Fame costs – and this is where you start paying ' Fair enough, but even with that being the case, you d expect *Ambition* to be free Or at the very least, not more than a decent leotard Not so, for *Ambition* on the QL is going to set you back almost £30

What you get for your money though, is 9000 programming hours worth of business strategy game – very complex and detailed as the substantial rule book suggests This took two years in the writing – and considering the full game takes an estimated 40 hours to play you can't pass judgement on it in an afternoon

However, I can say that if you re looking for a strategy game to get your teeth into then this is almost certainly a winner, but bear in mind that you'll need at least two people and several spare evenings to play – and your Granny won't go anywhere near it

Program *QL Small Traders Pack* **Type** Application **Micro** QL **Price** £19 95 (plus £1 p&p outside UK) **Supplier** SD Microsystems, PO Box 24, Hitchin, Herts

Spectrum

Program *Firelord* **Type** Arcade **Micro** Spectrum **Price** £8 95 **Supplier** Hewson, Hewson House, 56b Milton Trading Estate, Milton, Abingdon, Oxon OX14 4RX

Program *Uridium* **Type** Arcade **Micro** Spectrum **Price** £8 95 **Supplier** Hewson Hewson House, 56b Milton Trading Estate, Milton Oxon OX14 4RX

Program *Infiltrator* **Type** Arcade **Micro** Spectrum **Price** £9 99 **Supplier** US Gold, Unit 273 Holford Way, Holford Birmingham B6 7AX

Program *Galipoli* **Type** Strategy **Micro** Spectrum **Price** £8 95 **Supplier** CCS, 14 Langton Way, Blackheath, London SE3 7TL

Program *Frost Byte* **Type** Arcade **Micro** Spectrum **Price** £8 95 **Supplier** Mikro Gen Unit 15 Western Centre Bracknell Berks

Program *Fat Worm Blows a Sparky* **Type** Arcade **Micro** Spectrum **Price** £9 95 **Supplier** Durell Computers, Castle Lodge Castle Green Taunton TA1 4AB

Program *Durell Big 4* **Type** Arcade Compilation **Micro** Spectrum **Price** £9 95 **Supplier** Durell Computers, Castle Lodge, Castle Green, Taunton TA1 4AB

Program *Computer Hits 3* **Type** Compilation **Micro** Spectrum **Price** £9 95 **Supplier** Beau-Jolly, 29A Bell Street, Reigate, Surrey RH2 7AD

Where are the women users?

There s been a lot of talk and a lot of headlines recently on the issue of equal opportunities for women, blacks Asians, gays, disabled people and any other disadvantaged group your local council can think of The talk has largely consisted of generalisations about how these people have been discriminated against by employers

However what all these discussions, committees and proposals have failed to realise is that often it is the overall image – made up of advertising products, industry leaders etc – that intimidates and deters minorities from entering certain professions

Let us take for example the home computer industry and women Can you name any women games programmers? I ve come up with three Hanan Sumara, head of Dalali Software Anita Sinclair, *Pawn* author and Patricia Mitchell, ex-programming assistant at Virgin Obviously there must be more but these are the only ones I can think of

In the hardware and software companies women are reasonably well represented compared to other industries though with a strong bias towards marketing and PR positions But still these figures do not reflect the ratio of men to women in the general population

Some may argue that the reason for this is that women are not interested in computers, and this may well be true But then the question that has to be asked is why this situation has arisen Surely there are women writers who could use word processors, women executives who could use programs to tot up the sales figures and profit margin, women doctors, dentists and so on who could keep records more efficiently on a disc than in stacks of paper and women who would like to relax after a hard day at work with a game of chess, bridge or golf, or who would prefer a quick game of Space Invaders, or the more intellectual challenge of the adventure games

But apparently this has not happened Whether the polarisation of interest in computers begins in school or whether it is because it is often Dad who buys son a computer for home use, it can also be at least partially blamed on sexism within the Industry First of all, the majority of highly placed and influential individuals in the industry are male Secondly many of the advertisements for computer products are made to appeal to a male audience The ad for the game *Miami Dice* featured a woman in a low cut red dress with a huge pair of breasts, surrounded by men in business suits, one with his hand either on her waist or under her skirt – it was difficult to tell which from the drawing There are three current games which are most definitely aimed at an exclusively male audience – *Samantha Fox s Strip Poker, Legend of the Amazon Women* and more recently, *Leather Goddesses of Phobos*

To say that women are free to buy these and other products if they wish is to sidestep the issue It is more or less equivalent to saying that women are free to go out and buy *Playboy*, or to go for a walk at night and risk the chance of being raped

In as much as no woman wants to see pornography, or desires to be raped, they also do not want to see the more thinly disguised pornography of ads with near bare breasts for the sake of near-bare breasts (which have nothing to do with the game), nor do they wish to be portrayed in games as the helpless princess It shows women as mere playthings with no purpose in life other than to satisfy men

With the emphasis on male orientated games for a male audience no amount of talk about equal opportunity policies, hiring ratios and incentives in schools aimed at girls will solve the problem of female under-representation Women whether consciously or sub-consciously are not going to want to become consumers in that industry or enter into a market which regards them as largely unnecessary and unimportant

Unfortunately, in the end it is the Industry who will lose out – not only in terms of sales figures but also in terms of valuable and intelligent human resources

Michelle Beauchamp

NEXT WEEK

Special Supplement

The Spectrum

Saga's Compliment

A full review of Saga s word processor upgrade system for the Spectrum New keyboard disc drive and printer are all included in the package

Red Box

A home monitoring domestic interface system – from the company headed by ex-Acorn md Chris Curry!

Games

All the latest and best games for the Spectrum – *Uridium* (Hewson), *Shaolin s Road* (The Edge), *Infiltrator* (US Gold) and *Thanatos* (Durell)

Chess

Don t miss your chance to take part in the *Popular* vs *Colossus* chess tournament

Video Digitiser

Create your own digitised pictures with Haba s digitiser for the Atari ST Duncan Evans reports

Hackers